A Season in Egypt

1887

BY

W. M. FLINDERS PETRIE,

Author of "Pyramids and Temples of Gizeh," "Tanis I and II," "Naukratis," etc.

ILLUSTRATED.

2 - 0 - 0

A SEASON IN EGYPT

1887

BY

W. M. FLINDERS PETRIE

AUTHOR OF "PYRAMIDS AND TEMPLES OF GIZEH," "TANIS I. AND II.,"
"NAUKRATIS," ETC.

ILLUSTRATED.

London
FIELD & TUER, "THE LEADENHALL PRESS," E.C.
TRÜBNER & CO., 57 & 59 LUDGATE HILL, E.C.

1888

FIELD & TUER,
THE LEADENHALL PRESS, LONDON, E.C. (T. 4347).

CONTENTS.

PLATES.

INTRODUCTION.

1. In rendering the present account of another season's work in Egypt, it may be as well to say that this volume does not profess to contain the whole of the results. Much of my time was spent on procuring the ethnographical casts from the monuments; and these are only alluded to here, as they require a photographic process to render them effective, and such would have been too expensive for a general publication. They have accordingly been arranged separately, as we shall notice below.

When last autumn, to my great regret, it seemed undesirable to co-operate further with the existing administration of the Egypt Exploration Fund, I found myself tied, by the acceptance of a small grant from the British Association, to undertake the work of ethnological casts in Upper Egypt. That grant, although sufficient for the mere cost of materials, left to my own charge nearly all the expense of travelling and residence for a season. I therefore considered what subjects I could best take up, to render my stay in Egypt of archæological benefit. The general examination of out-of-the-way parts of the Nile cliffs was an affair that I had long wished for; the rock inscriptions of Assuan were awaiting a copyist; and the pyramids of Dahshur were a promising subject for an accurate survey. Such were the subjects that I accordingly selected to occupy a season in Egypt, in addition to the racial casts. That nothing here appears of the work in the rock tombs, is due to a partition of subjects which was agreed on between my friend Mr Griffith and myself. I had the great pleasure of his company up to Assuan, and the benefit of our both working on each place, sometimes separately, but more often each checking the other's work, and consulting together. Thus it became impossible to separate our respective copies; and as he had done more during the past season on tombs, while I had attended more to rock inscriptions, we agreed to divide the results, each taking in a share of the other's work. Thus Mr Griffith will publish, in Journals and otherwise, the tomb inscriptions, including my copies; while here I have the advantage of using his work on the rock inscriptions, and his continual verification of my own copies. The individual responsibility is, however, duly noted to each inscription here. I should also acknowledge the many occasions on which Mr Griffith has given me most unreservedly the benefit of his reading and study. It is a true pleasure to be able to co-operate so freely with a student whose line of work is somewhat different to my own, and whose knowledge is therefore all the more valuable in joint work.

2. Passing Middle Egypt, we went to Minieh by train, and there sought for a boat. Happily we found there a small open boat, which had had a cabin built on to it that just sufficed to hold us; this cabin was only 12 feet long, and as it was but 7 ft. wide at the most, with a cupboard taken out of it, there was scarce room for a bench on either side to sleep on, and a passage up the middle. A table was out of the question; so hanging two loops of string over nails in the roof, a box lid was laid in the loops, and we had a swinging table. It kept up its character well for swinging, and if there was any wind we had continually to steady it, and save our plates. A vigorous carver would have made short work of it; but as we readily dissected our fowls in Arab fashion, the firmness of the dinner table was not so needful. We took up with us our old reises, Said and Muhammed el Gabri; the first looked after our property and did some cooking, the latter walked with us everywhere, a regular *shes*. Two boatmen and a boy made up our crew. The boy, little Abd el Minm, was the best of them; possessing a remarkable freedom of speech, he used to make the boat lively in the evenings; his observations, generally amusing, and sometimes, I fear, scandalous, serving to keep the attention of the ship's company. He was always ready for work, whatever it might be; if the rudder swung, or the mast creaked, in the night, a whisper would be heard outside, from the tent which hung over the outer deck for our men, "Get up, oh! Abd el Minm"; and with a little grunt, one soon

heard the pat of his feet above on the top. One day Said having purchased a skinny fowl, the bird inconsiderately flopped overboard while waiting for the decapitating knife. As we were in mid-stream, the only thing to do was to put the boat about and sail after our fowl. By the time the clumsy craft was heading down stream, the fowl was out of sight. Anxiously I stood on the top rail of our cabin roof, telescope in hand, searching the watery waste for our dinner. At last, when despairing, I caught sight of it about half-a-mile down; a sort of start that would have taken full half-a-day to catch up with a light wind. Now was Abd el Minm's opportunity; dropping his overall shirt, his little brown body plopped into the water, and swimming with splashing right and left stroke, which Arab boys love, he soon reached the shore. Running down for a mile or so, he then went in again, and intercepted the fowl. By that time it was drowned, and we watched him trotting back fowlless; so that misguided bird went down to the dark and Typhonic regions of the north, while we sailed with a favouring wind from Amenti, up toward the blameless Ethiopians.

The Nile boatmen are an interesting race, and it is as well to study their habits as soon as you get among them; for their want of cleanliness will lead the traveller to the invariable rule of anchoring always above their boats, as necessarily as he anchors above a town. Fortunately, the Nile is a big lot of water. One day I saw a curious form of divination, in a boat not far off; the boatman had some small object in a cloth, which he dashed to and fro between his hands, crying "Wallah! Wallah! Wallah!" (By God); suddenly he flung the article into the stream from the cloth, saying "Will you go or come?" and anxiously watched which way it drifted. Seeing it pass outward into the river, he said, "It goes"; and he had got his answer. It is strange how averse they are to stopping for the night at an islet or shoal in the stream; they always will lie up by the shore. Yet they are so afraid of thieves that they greatly object to put up anywhere but at a village; and if one boat ties up for the night in a lonely place, others are sure to stop if they come near it in the twilight, for the sake of safety in numbers. Putting this together, it shows that loneliness is what they dread more than actual thieves; it is the "afrit" more than the "bad people" that they fear. An Egyptian is a very timid being; to go out at night, especially to any distance, is a terror to him; the long and lonely road, and still more the dark shadows of trees or woods, will scare almost any native. One man I was told of who was very strong (in mind as well as body), and he *liked* to go about at night, and did not mind living a long way out of the village. One night he passed the body of a man who had been slain, lying by the road-side; the hyaenas were all round it, but hesitated to begin their feast, because the wind flapped the dead man's mantle. Whenever I came in late—often alone—the mingled chidings and rejoicings of my men were worthy of any congregation of village crones. Practically, night is the safest time to go about, if you are not known to be taking a particular road, because every one is afraid to be out.

3. In six weeks we went from Minieh up to Assuan. There we pitched our tents in a bay far above the town, and lived for ten days, while wandering over all the neighbourhood up to Philae, copying inscriptions. Assuan in these times is one of the most curious mixtures to be met with. In one small compass is the rolling and swirling Nile, the bright crops, the utterly barren desert, with its piles of granite crags, the Maltese grog-shop, the Arab, the Nubian, and the wild desert Bedawin with their enormous heads of dressed hair, the officer who evidently thinks that the first duty of every human being is to learn English, the suave Italian dealer, ancient tablets of past ages standing mute witnesses on the granite rocks at every corner, and Tommy Atkins, his parades, his stores, and his bands pervading the whole place. However, as it is a choice between having a slice of Woolwich at Assuan, or else a fresh invasion of the Blemmyes or a new Tirhaka, the traveller may be glad to take things as he finds them. On leaving, we heard that the first-class in the steamer was engaged some weeks in advance. The second-class was an insufferable cabin, the air thick with tobacco and onions and dirt. So we elected to go third on deck, and very comfortable that way is to anyone with a proper roll of blankets. Only not when the Egyptian government are relieving troops; there is always room by third-class in theory, but in practice it is rather hard to find room when sixty native soldiers have divided all the small deck space with military regularity amongst themselves and their baggage. The civilians who came on clumped themselves down in the narrow pathway left between the ranks. After seizing on a space while the soldiers were away, we had to fight morally—if not physically—to hold our own. We were told to go, but demanded to have a clear space somewhere else before we stirred. After some friction, and an unpleasant hour, they made the best of it, and let us have just space enough to lie on

our edges; on the flat was impossible. My friend, however, had a man's foot in his stomach most of the night. We all got on well together afterwards; and our next neighbour, one of the corporals, was a very good fellow. The sacred space allotted for the promenade of the first-class during the day was only intruded on by stealth; some of the men could not resist the sight of a clear deck and plenty of room just over the hand-rail barrier. Certainly, if the Egyptian Government fill up all the space with as many soldiers as they think can be stowed on the deck, and then take all the passengers they can get in addition, some stretching of the rules of accommodation ought to be allowed. The boats are not built to be choked in this way; and the apology for sanitary arrangements is scandalously inadequate. If the whole affair were proclaimed to be on par with a pilgrim boat, one would take it all as it came, rough and ready; but the first-class and its civilization hedges off the deck, and curiously inspects the herd which is penned up before it. Coming down from Luxor some weeks later, the same state of matters was still going on; only this time I was settled into the midst of a cargo of convict soldiers, all undergoing sentence for some crimes. They were duly guarded day and night by sentries, and not one was allowed to leave the upper deck without a soldier behind him, bayonet in hand. This I thought tolerable company, squeezed together as we were; but at one place a gang of civilian prisoners, all heavily ironed together by massive chains from neck to neck, were brought on, and settled down just on the top of myself and baggage; I had secured a piece of the pathway, and so my neighbourhood was a little clearer than elsewhere. After some clamour, we at last got our load of wretches shunted off into a corner. A gang of Egyptian prisoners looks strange at first; these were all utter villains, except one boy, —men whom I would never have employed under any circumstances, from their faces alone: each man walked on hugging with his chained hands his sack of provisions thrown over his shoulder, for they seemed to be required to provide all their own food. They had been seized for murders and robberies, and were on their way to trial at the Mudiriyeh. During the day there was just moving room to pick one's way across the legs and among the bodies of all our cargo of scoundreldom; and many a pleasant hour I spent, sitting on the barrier of respectability, talking to a friend who was, luckily for me, going down in the same boat, and luckily for him first-class, there being a lady in the question. When I returned to my faithful Muhammed, who was alone with me this time, I generally found him sitting rather disconsolately, with less room about him than when I had gone; it needs the presence of a living and acting personality to secure any space in such a crowd. But at night, when every man wants his six feet of deck, then comes the squeeze, and the early sleepers have the best of it. There is only a couple of thin iron bars around the deck, without any bulwarks, and the lower rail is more than a foot above the deck. Hence it is needful to lie end-on to the boat's side, or else a roll would send a sleeper into the water. The paddle-boxes were coveted spaces, of course legally forbidden, and without any rail or barrier whatever around them, but yet rather clearer than the deck. Watching an opportunity, I saw a soldier get up one afternoon from his space on the box, and I instantly seized it, and spread my blankets, in token of a settler in occupation of his claim. My head was safe, for the box tapered away too narrow for anybody to get at that part; my legs were steadily intruded on until I asserted myself by a good thrust on that side; then some one on the other side gently insinuated his legs across my feet, and was gaining ground for a while, until, when his position was matured, a convulsion from below tossed his heels in the air, and he meekly withdrew. It was not the company that I objected to, but having too much of a good thing; individually, an Egyptian is a very pleasant fellow to travel with, conversable, kindly, and in short chummable. These soldiers had been seized as conscripts, probably marched off from their villages in chains, and then sent to garrison in Nubia for three years. At many a village and town that the steamer passed, a man would rise and stand looking out at every soul in sight, searching for some of his family, then call out his father's and brothers' names, in hopes that some of them might be in hearing. At one place a boy sighted his brother on board, and ran along the bank at full tear for a mile or two, shouting "Hasan! Hasan!" Happily we came to a stop near there, and Hasan's brothers and sisters and parents all came down, and rejoiced and wept over him for ten minutes, until the whistle blew, and Hasan was once more lost to their sight. These poor folks do not know how to write, and even when they do send a letter it is often not received. The post office, though excellent when a European's letters are in question, is but lax with Arab correspondence; one man had written three or four letters from Assuan to his family at Dahshur, but none were ever received. When Muhammed was there with me

he took a message for them, which was faithfully delivered.

4. While at Thebes, I was out every day taking paper casts and photographs of the innumerable sculptures of foreign races on the monuments. The great battle scenes, the rows of captives, the lines of forts, all supply examples of the physiognomy of the various races with which the Egyptians came in contact. Until this year, no general collection of these had been made; and only drawings of some few heads and figures were available in England. My work then lay in securing good examples of every variety of type, especially searching for all bearing direct local names, or general race names. Of these I took paper squeezes, or impressions; the paper being beaten thoroughly on to the stone while wet, and left to dry on; after that it could be removed, with an impression which will bear any ordinary travelling without injury. To photograph most of these subjects successfully would have been a very long task, many of them being so high up on walls that a large scaffold would have been needed to bring a camera into position. However, by hanging a rope-ladder over the wall, weighted down at the top by Muhammed (enjoined not to move), I could scale up, holding the paper and brush in my teeth; and then, hanging on by an elbow, beat the paper on to the sculpture. Altogether, nearly two hundred sheets were done, including about two hundred and seventy heads. Also many painted subjects were photographed in the tombs. When near the outer air, the sunlight could be reflected in by sheets of tin-plate, and many photographs were thus taken. But in the depths of the large tombs it was necessary to use artificial light. This was obtained by mingling powdered magnesium with an equal weight of chlorate of potash, and then exploding the mixture. By calculation of the proportions of magnesium- and sun-light to candles, I reckoned that forty grains of the metal burnt at 8 feet distance from the subject were needful to light it enough to photograph. This proportion gave excellent results with ordinary dry plates. Of course, at 4 feet (half the distance) only ten grains—a quarter of the quantity—is needed. Since my return to England, a German has published directions for taking instantaneous photographs by using sulphide of antimony with the magnesium, but this would foul the air too much in a close tomb: and an American has used a mixture of guncotton and magnesium; but the direct oxidation of the metal by chlorate of potash seems the simplest and best way to work with it in confined spaces, and the materials are non-explosive until they are mixed for use.

On bringing the paper casts to England, the question arose how best to utilise them. First, I soaked them with wax; then I took plaster of Paris casts from them, forming about one hundred and fifty slabs of various sizes. These slabs will be presented by the British Association to the British Museum, after their exhibition at the South Kensington Museum, by the kind arrangement of the Palestine Exploration Fund. From the slabs, which were in relief like the original stone sculpture, I then took a series of photographic negatives; and prints of all these negatives, as well as those of the painted figures, can be had by any one who cares to pay a photographer for printing off copies. On applying to Mr Browning Hogg, 75 High Street, Bromley, Kent, he will forward a set of the photographs; if only a selection is needed, a set of loose prints, which can be taken from their sheets at 2s. 3d. a dozen, will be sent; if a whole set of one hundred and ninety photographs is wanted, they will be sent pasted on sheets of parchment paper, with printed titles, in a cloth case, for 45s., post free. Also the British Association have agreed to supply copies of the report by myself giving the details of position of each subject, and a paper on the geographical identifications by my friend, the Rev. H. G. Tomkins; and these copies will be presented to any person ordering a whole set of the photographs, so far as they may be available. By these arrangements, I hope that this large ethnographical collection will be quite as useful to students as if it were published; while any publication by a mechanical process would entail so large an outlay, that it would be impossible to supply the prints at such a low rate of cost price as at present arranged.

5. From Thebes I went down to Wasta; and crossing the river to Berimbal, walked with a baggage ass down the east shore to Helwan. This part was little known; but there is nothing to examine beyond a few small sites, and the town of Atfih, all of which are Roman or Arab, so far as they can be seen. Crossing over to Memphis, I settled at Dahshur, in order to survey the pyramids there. Though the village of Menshiyet Dahshur is nearer than any other to the pyramids, yet its distance, and the great stagnant pool of water by it, were objectionable. So I pitched my tent at

the edge of the cultivated land, some half mile from the village, beneath a small grove of palms on a sandy rise, with several fairly good wells around it. The only trouble was the need of having guards, owing to the distance from the village. Happily I got two very quiet men, whom by many injunctions I restrained from talking at night; for when living in a tent, one is one's own policeman, and the slightest whisper outside is enough to break a sound sleep. Those guards slept in an enviable manner; one night the mounted police came round, and angrily demanded why they were not awake; the poor fellows could do nothing but stammer out "yes, yes, yes," to every question; and could barely find sense enough to give their names. They were in great dread of being fined, and begged me next day to write a letter to say that I preferred them to sleep. As their official beat, however, was about two miles long, I feared the excuse would not be thought worth much. Another night I was awoke by a whine, and leaning forward to my man Muhammed, who was also awake, he said that a hyæna had been smelling the guards' feet, but thought they were alive, and so hesitated to begin on them. On Muhammed moving, he had slipped into the shadow of a palm, and stood whining at being disturbed from a prospect of supper. The guards were snoring quite steadily, when I just sent a shot over toward the beast to scare it off; as the crack of the revolver died away, I heard the same snore continuing without the least break or change. Happy sleepers who can ignore such a sound just over their heads!

6. There was some need of guards in the place, as Dahshur is the terminus of the thieves' road to the Fayum. Whenever cattle are lifted, either about Sakkara, or in the Fayum, they are driven along this road and sold at the other end. The first day that I was going about the pyramids I smelt a smell; and following my nose I came on some uncanny legs, off which the hyænas had eaten the flesh, sticking out of a hollow behind some stones. I thought they looked suspicious; so when I had Muhammed up there the next day I told him about them. He came to me, looking mysterious, and said it was a man; he was certain of it, for he felt his hair stand on end, and moreover there were the clothes about. Certainly, the leg bones did not agree with anything I knew of quadruped anatomy. So I sent word that evening to the shekh of the village. His terror was that the police should hear of it; he therefore sent up the guards to rebury the remains; but—as I afterwards heard—they elsewhere found a boy instead, reburied him, and thought it was all done. Finding the police were not told, I sent over to them, and had sundry visits of investigation from policemen and inspector; and finally a guard was appointed to watch the remains until a doctor could arrive. These unlucky guards were levied from the neighbouring villages, twelve in all, with four policemen; they passed their time lying about at a corner of the pyramid, hearing the "afrits" of the murdered men by night, and baked by day in the barren desert; parties went down to water nearly two miles off in the valley, and returned to relieve the others in rotation, until the grand day when the doctor came. Then a full examination took place, and two bodies of men were overhauled and officially reported on. The boy, neither I nor they knew of at that time. While the police (unfortunately then horseless), were waiting about at the pyramid, a party of three thieves, driving five buffaloes over from the Fayum, ran right across them. A challenge followed, then an exchange of fourteen bullets, and then the thieves bolted. So that evening the policemen marched in triumph back to the village with the cattle.

When I was first surveying about the pyramids, I used to see, about twice a day, men passing with horses or cattle; but after this stir with the police such travellers entirely ceased. The bottom of the affair was that these two men and a boy had been murdered in a blood feud; they having murdered the brother of another family of thieves, and their brother had shortly before been hung for murdering some one else. The matter was complicated by their having sundry business relations with the people of Menshiyet Dahshur; and when the mother of the murdered party came over with the police, she at once identified pistol and pouch, which the shekh of the village guard was wearing, as having been her son's. How he came by them had to be explained, but as he wore them openly on such an occasion, I believe in his innocence. When I left the place, the shekh of the village, the shekh of the guard, all villagers who had known anything of the parties, and all available relations of the parties, were still in lock-up at Gizeh. In Egypt, it is quite necessary to seize and lock up your witnesses as securely as the prisoners, in order to reduce the probabilities of their receiving bribes, and also to increase the opportunities of getting bribes out of them during detention. Every time a man is examined he makes things pleasant to the clerks, otherwise troublesome errors might appear in the record, and the police

record is omnipotent against a man. When once his name gets into the police office about any affair, as plaintiff, defendant, or witness, he is liable to squeezing for years to come. Whenever a policeman wants a dollar, he may perhaps call out the unlucky man, and tell him that he is wanted on such and such a case, but if he will pay up, the policeman cannot find him. Of course he pays, for fear worse things should happen to him. While I was at Dahshur, a policeman went from Kafr el Ayat to Sakkara, where he had no authority; he then conspired with a guard, and called out twelve men on a false charge, and drove them off some way toward Kafr el Ayat, and then intimated that a dollar a head—a week's wages there—would settle matters; so they found twelve dollars, which were sweetly divided between the policeman and the shekh of the guard. Luckily this case came to the ears of the European authorities, and I even heard that the money was to be refunded. Probably the examination would cost the men more than their first loss. As the Arabs say, when one remarks "Surely such an one does not take bakhshish?"—"Everything that has a mouth will feed." Nothing but a long course of stringent and incorruptible control will ever put the country into order. A most quiet and inoffensive man, brother of my overseers, had annoyed a slave-dealer by refusing to let his house at Gizeh be used as a cover for the trade; the caravans of slaves usually descending from the desert near there, at Abu Roash. When the dealer was caught, he falsely accused my friend of being an accomplice, out of revenge. So the poor fellow was seized and imprisoned for over two months, while his agriculture was neglected, and he paid about twenty pounds to various officials. At last the case came before an honest Bey,—a Turk most likely,—and he asked if the slaves had identified the accused. Some of the slaves were fetched; they at once identified the dealer, but said they had never seen my friend, nor another man who had been similarly treated with him. So the innocent got off at last, and live in dread of being levied on in future. No doubt the poor peasantry could appeal for justice to the European heads of departments, if they knew how. But how can a man obtain a fair hearing who cannot write, who dreads above all things stirring the resentment of the police, and who probably does not know whom to appeal to, or how to find, or reach, the ruling power? He needs, moreover, a course of education to believe that there is, at any stage of government, such a thing as honest justice to be found, though this is at last understood by those who live near the cities.

A year ago I most reluctantly decided on giving up the work which I had been carrying on for three years before, and which seemed at the time to furnish my only opportunity of excavating in Egypt. Since then, to my surprise, private resources have been placed at my disposal for the cost of excavations, and I shall in the coming season be at work in the Fayum. I hope next autumn to have an account to give of the antiquities of that district.

CHAPTER I.

THE ROCK INSCRIPTIONS OF ASSUAN.

7. Amid and behind the houses of Assuan, rise the rounded granite rocks which have in past ages resisted the wear of the Nile torrent, when the stream was far stronger and higher than it ever is in these days. On their grey and brown polished faces, every visitor will have noticed figures and inscriptions; some carved with fine regularity, some hammered or bruised on the surface of the rock, so that they show more by their lighter colour than by any depth of cutting. These rock inscriptions are to be seen not only about the present town, but also in a bay to the south of it, on the rocks of Elephantine, and on dozens of blocks all along the road from Assuan to Philae, up the older bed of the Nile; they there reach a profusion as they near Philae, and culminate on the pile of vast towering masses of granite known as Konosso, on which nearly all available places have been occupied. Others are to be seen on the opposite island of Bigeh; some rude ones on the mainland east of Philae; and many are scattered on the rocks along the side of the Nile, between the three villages which lie south of Assuan. The cross valleys between the river and the road also contain several others, and many are known on the island of Sehel at the cataracts.

The purport of these inscriptions is very various. There are several royal tablets, most of which have been published by Lepsius in the *Denkmäler*, and therefore have not been recopied. Many are of private persons, dated in the reign of some king, or naming their offices under him. But the greater part of them are funeral stelae, stating that an offering is made to some god or gods, generally those of the district—Khnum, Sati, and Anket—for the ka, or soul, of the deceased person, whose titles and family are usually stated. These inscriptions are thus exactly the same as the funeral stelae found in tombs else-

where; as it was impossible to excavate tombs in the granite rocks, the interments must have been generally in the sand, and the stela, in place of being in a tomb, was cut on the rocks. Other inscriptions, which merely state the name and titles of some official, were probably cut by travellers while waiting in the neighbourhood for their boat to pass the cataracts, though not one actually refers to the passage of the cataracts. These brief mentions are very rough in general, and abound on the rock at the east side of the lower end of the rapids, just where voyagers would disembark.

The positions of the inscriptions are various. Some are on the granite faces which dip straight down into deep water, and are below the present level of high Nile; generally they are at the level of the roads by which they stand, or raised somewhat on prominent faces of rock. Effective display has been sought for in most cases; the corner of some road, or an unusually large block of stone, or a wide flat face, well exposed, have generally been occupied. In some cases, as the scene No. 109 and others, by Amenemapt, the highest faces on the cliffs have been used, about 100 feet above the road beneath, and several tablets cannot have been cut without ladders or scaffolding. Prominence was not, however, always wished for; and one very beautifully deep-cut inscription, No. 86, is on the flat side of a huge block facing to the cliff, and not to be seen without climbing up some distance over the piled masses, so as to reach its level.

In the time of the Empire, the courtiers of the XVIIIth dynasty were not too scrupulous as to the positions they seized on; and just south of Assuan, on the road to the Cufic cemetery, are many early tablets, the engraving of which has been cleared out, and fresh inscriptions cut on the stolen sites (No. 274, &c.). In all earlier times, however, a strict regard seems to have been shown to older inscriptions. It is seldom that the face of the rock has been specially dressed down, either in a bordered square or otherwise; usually the smooth worn face, or a flat cleavage face of the granite was selected, and the inscription cut on it. Thus the natural wearing of dark brown, or the shiny pitchy black where exposed to the Nile, served to throw up the light bruised surfaces of the cutting, so that no more than a mere hammering on the surface, and stunning of the crystals, sufficed for distinction in some cases. Some inscriptions, indeed, are so slightly and roughly marked, that it needs an examination of the granite crystal, by crystal, to trace the course of the bruised lines. In a few cases there are remains of red or of yellow paint on the figures; but if painting had been general, more would have been visible now under the very minute examination of the cracked surfaces that has been continually made in the course of copying the inscriptions.

8. In the accompanying plates all the inscriptions not hitherto published are here given. As they were copied partly by Mr Griffith, and partly by myself, the copyist's initial, G. or P., is placed at the foot of each; and where a copy has been checked by a second reader, the checker's initial follows the copyist's. Where a photograph has been used, the letter ϕ follows the copyist's; and in a few cases where an inscription is given in the *Denkmäler*, the variations between that copy and this are noted. The order of the copies here is geographical from South to North, without an exact distinction however between those in the same group, though generally they follow in nearly their order on the ground. The positions of Mr Griffith's originals not being connected with those of mine, his copies are placed in a group 131 to 154, which is parallel with my group 68 to 130; and some additional copies of his appear as an addendum to the general order, Nos. 332 to 356. The quickest and most satisfactory way of working was by my making the copies, and Mr Griffith checking them, and this plan was followed as far as we could. Besides the 338 inscriptions here from Assuan to Philae, there are about two dozen in the *Denkmäler;* these will be found in Band IV. 118 (Usertesen I); 123 (3); 144; 150 b. c. (Mentuhotep); 151, e. f. h. (Noferhotep); V. 16 (Tahutmes I); 69 (Tahutmes IV); 81 (2), and 82 (3), Amenhotep III.); VII. 202 (Merenptah): and VIII. 274 (Psamtik, Haabra, and Aahmes). About 60 in all have been hitherto published by Lepsius, Champollion, Mariette, &c.; all of these bear kings' names, and scarcely any of them have been republished here.

9. Several tablets with kings' names, however, have been hitherto unnoticed, and these are given in full; the following being the list of kings' names occurring in these inscriptions, including those lower down at Silsileh and Thebes, and the cones and other monuments on Pl. xxi.–xxiii.

Nefer-kha-ra, No. 309.
Unas, No. 312.
Pepi I., Nos. 309, 539, 630.
Rameren (year 4), Nos. 81; 338.
Pepi II., No. 311.
Antef, No. 489.
Antefā, No. 310.

Mentuhotep Ra-neb-kher (year 41) Nos. 213 and 243; 394, 443, 489.
S-ānkh-ka-ra, Nos. 359, 466.
Amenemhat I., Nos. 67, 308.
Usertesen I. (y.1) 271; (y.41) 91; Nos. 113, 273.
Usertesen III. (y.6) 262; (y.12) 340.
Amenemhat III. (y.14) 151; (y.15) 84, 153; (y.24) 98; (y.25) 154.
Amenemhat IV. (y.3) 444; No. 703.?
Neferhotep, Nos. 337, 479.
Sebekemsaf, Nos. 385, xxi. 2.
Kames, Pl. xxi. 1.
Ti-aa-aa, Pl. xxi. 1.
Amenhotep I., Nos. 476, 480.
Tahutmes I., Nos. 476, xxi. 1, cone 14.
Tahutmes II., No. 476.
Hatasu, Nos. 357, xxi. 3.
Tahutmes III., No. 357, cone 39.
Amenhotep II., cone 6.
Amenhotep III., Nos. 274, 334, 490,? cone 84.
Khunaten, Pl. xxi. 7.
Seti I., Nos. 109, 130.
Ramessu II., Nos. 146, 275, 662, 664, 684.
Merenptah I., No. 70.
Seti II., Nos. 665, 666, 673, 691.
Siptah, No. 278.
Ramessu III., Nos. 650, 652, 659, 661, 663, 681, cone 107.
Sheshank III., cone 56.
Kashta, No. 263.
Amenardus, Nos. 263, xxi. 8.
Nekau, Pl. xxi. 5.
Haa-ab-ra, No. 321.
Aahmes II., No. 302.
Amenrut, Pl. xxi. 11.

The unknown cartouche Hotep, 430; and the unknown ka name Uaj, 414. Only about half a dozen of these have been published before, so far as I am aware.

10. From the large number of relationships recorded in these family groups, we may ascertain the force of a very well known feminine title *Neb-t per*, or "mistress of the house." It has been supposed to be a synonym for wife, as endowed with her husband's property; but from inscriptions No. 114, we see that Thi was both *nebt per* and *hemt* —which is the regular title for wife: and in No. 159 we see the same condition of Nait: further, as we always find the wife called *hemt-f*, "his wife," though we never find *nebt per-f*, "his ——?", it seems clear that this can neither be a synonym for a wife, nor yet a secondary wife or concubine. It is certainly a title of some respect, as it is continually used, and its meaning shows a position of authority. If it signified an heiress, in default of sons, it could not be so common as we find it to have been; and moreover, we see in No. 145 that the *nebt per* Hennut was not an only child, and another such case is in No. 289. Being then neither heiress nor secondary wife, and yet an additional title to some wives, we are reduced to examine the one other position, that of widow. Now deceased persons are usually — though not always — entitled *makheru*, as having the "true voice," or intonation in the other world, to recite the defensive formulae for repelling evil spirits, according to Professor Maspero's neat explanation of the phrase. If then the *nebt per* were a widow, her husband, whenever his name is given, should be described as *makheru*. Is this so? There are six cases in these inscriptions, where a husband of a *nebt per* is named, Nos. 19, 82, 87 (Henutsenu) 114, 159 (Nait), and 244; and in five of these the husband is deceased; the only case where he is not stated to be so is No. 19, where he was probably dead, as there are five grandchildren named; and moreover, the *makheru* title is not applied to any one in that inscription. This test therefore fully bears out the conclusion. But one other test remains: in any past generation there will be about as many widows as widowers, *i.e.*, wives must have half of them died widows; half, or rather more than half, of the women should therefore appear as *nebt per*, though, as that title is in many genealogies rarely given, we cannot expect a full half. As it is, there are (in inscriptions where *nebt per* is used), 80 mothers without the title, against 52 called *nebt per*, which is as close a balance as we can expect.

The only explanation therefore of this title *nebt per* that appears possible, is that it means widow, or "mistress of the house" after her husband's death; and this is fully confirmed by the two tests (1) of the husband being called *makheru*, and (2) of the equality of numbers to that of the wives. Probably, where a son or daughter took possession of the house and estates on his father's death, the widow might not have this title; and this would account, as well as the mere omission of it in the lists, for the title occurring to four-tenths instead of half of the mothers named.

11. An important point, which is very prominent in all of these families, is that relationship was reckoned on the mother's, and not on the father's side. In every case of stating the descent of a person, throughout the whole of these inscriptions (and I might add the tombs and funeral stelae in most cases), it is the mother who is stated; the father rarely appears, unless he is separately commemorated. The parental identification of a man was by his mother's name. This might be thought to be only a surer identification, as a man often had children by different wives (*e.g.*, four

mothers of one set of brethren being named in No. 270), whereas re-marriage of a widow is not known so far. But it was much more than this; the father was ignored; so long as he lived, and filled offices, he was important, but on his death he became nobody, and was not reckoned as a link in the family. For instance, in inscriptions Nos. 86, 87, and 114, all of one family, the mother is commemorated and repeatedly named, the father is never mentioned; the mother's mother is named also. In Nos. 267–8 there is not a single husband mentioned among over twenty wives, only a few unmarried sons appearing. Again, in No. 270, the four mothers of a set of brethren are named, the father being but once mentioned, and then not as any bond of union to the whole. It is the same in the tombs at El Kab; there interminable relations cover the walls in rows, the tombs seeming to be a sort of joint-commemoration of a whole family and their friends, for their benefit in the future world; possibly a pious duty of the head of a house; possibly a memorial got up by joint-subscription. But in these tombs the relations are all on the female side, except the very nearest. Paheri, for instance, has his father, wife's father, brothers, and sons, but no further male relations; whereas his first cousins in the female line, "daughters of the sister of the mother of his mother," are given at length. And we see from other cases that this was no mere accident of relationships. Matriarchy was in great force in Egypt, the husband in many contracts even gave his wife everything he possessed; and it seems highly probable that though offices might descend from father to son, property would go in the line in which relationship was reckoned and commemorated; so that a widow was, by her rights, mistress of the house, or *nebt per*. De Rouge has shown reasons for believing that Khufu married a daughter of Seneferu, and succeeded to the throne instead of any of the sons of Seneferu; Khafra similarly married a daughter of Khufu, and succeeded in place of any of the sons of Khufu; and Menkaura is not among the sons of Khafra. Here we see that the throne descended in the female line; and the long list of priestesses of Amen at Thebes, an office which also went in the female line, shows this same course of inheritance. It seems highly probable that, down to the latest times, the only legitimate succession was in the female line; and the sons of kings could only rule legally by the system of sister-marriages, which was begun in the XIIth dynasty, and fully carried out in the XVIIIth and later dynasties. The Egyptian system of the descent of property in the female line thus tended to increase the energy and ability of a family; while the modern system of male descent rather increases its mere beauty. Perhaps the Egyptians were the wiser.

12. As an illustration of the reading of these inscriptions, for those who are not already familiar with them, we may take No. 159. "A royal offering presented to Sati, Khnum, Anket, and the gods who are in Ta-kens (the land of the bow, or Nubia); giving to them services, bread, wine, beeves, and fowls, and all things that are good and living amongst the gods, for the ka (soul) of the chief of the south thirty (a district of the frontier—perhaps the Dodekaschoinos of later times), Amenemhat, true-voiced (*makheru*); born of the widow (*nebt-per*) Thenasit, true-voiced; and for the son of his brother Amendudu, true-voiced; and for his wife, his beloved, the widow Nait, true-voiced; and his daughter Senb-tesi; and his daughter Annutpu." The precise significance of many of the formulæ continually met with is still more or less uncertain; but this example will, at least, show how such inscriptions run. The constant opening, "a royal offering," has been very happily explained by Professor Maspero; his view being that the king was the only intermediary between his subjects and the gods; he alone could offer acceptably to the gods; and whatever was offered could only be done in his name, as being done for him: thus every offering was a "royal offering."

13. Turning now to some details of the inscriptions, it should be noted that, in most cases, they are copies and not transliterations; that is to say, the style and character of the original is preserved as nearly as may be in a hand copy. Where they are very rude, as in Nos. 1 to 18, each line is reproduced as exactly as can be readily done; where they are in better style, as in Nos. 19–22, the forms of the signs have been duly observed, the number of waves in *n*, the number of strokes on *men*, and such details, have been in nearly all cases copied. These details are of considerable value in educating the eye in styles of various periods, but they are generally ignored by copyists; even in the ostentatiously pictorial plates of the *Denkmäler*, a seemingly precise copy will differ altogether from its original in the forms of the signs. From this carelessness has arisen a neglect and indifference to the historic variation of such details, which is a hindrance to any Egyptologist who works from books and not

from the originals. A copy should be a true copy, and not a transcription into a style of a wholly different period; and if any signs are unintelligible they should not be altered, but an explanatory form added as a note. Such of the copies in this volume as are mere transcripts are distinguished by being drawn in open outline, as Nos. 25 to 30; though in these any remarkable forms are observed.

The hieratic forms often found in these rock inscriptions are of considerable interest. They show the free use of hieratic for common purposes at the early date of the XIth and XIIth dynasties. Moreover, they are in many cases more difficult to form on the stone surface than their hieroglyphic equivalents, being adaptations for writing upon papyrus and not for cutting on stone, curved rather than straight lines; and yet as they were used in preference, it shows that they were far more familiar to the users than the hieroglyphics, which were certainly very commonly known. They form, therefore, a distinct evidence of the common use of hieratic writing on papyrus in the middle kingdom; an evidence quite in accord with that of the tomb paintings in which clerks are so often to be seen. The date at which the various forms of hieratic signs were in use is of great interest, as bearing on the question of the early hieratic papyri being original or of later copying. Here we have a large quantity of hieratic, in various stages of decadence from the hieroglyphic, and mostly capable of being approximately dated by the names found. For instance, the Antef and Mentuhotep names, which are so frequent, are probably all before the XIIth dynasty, as in that age a fresh style came in of Amenemhats and Usertesens, and all their compounds. The Sebak names are unusual before the XIIIth dynasty, and very rare before the XIIth. All of these scarcely survived into the Empire, and with them perished the sweet early names of primitive times, Apa, Beba, Teta, and such simplicities. By these data of the names the various periods of the forms of characters may be ascertained within the time of one dynasty and one change of fashion.

14. We will now make notes on a few points in the plates in their order. The inscriptions 1 to 18, which are on the east or further side of the plain opposite Philae, seem to be all of the XIth dynasty, except, perhaps, the last. Konosso is the high pile of rocks, around two enormous twin masses which tower up on the eastern side of the Nile, where it makes a bend around Philae; they are thus on the north of Philae. Though called an island, they are joined to the mainland, except at high Nile; forming part of the eastern shore from January onwards each year. It is needful to note this, as in Murray's *Guide* the position is wrongly stated. Some of the inscriptions of Konosso are the largest and most striking of all; many of them, however, belong to the Empire, the most conspicuous being the large dressed faces of the tablets of the XVIIIth dynasty. High above every other is a square containing the cartouches of Psamtik II. A frequent title in the earlier inscriptions is "chief of the interior of the treasury" (*v.* 20, 22, 29, 33, 34A, 46, 55); probably a local title in the principal temple. Another title of less important persons, and probably later, is that of "scribe of the youths," perhaps of the recruits (*v.* 30, 35); while a "youth of the land," or son of his country, is shown on 41 (Amenemhebjedaf), 42 (Hui), and 43, and these may well be the cadets in the charge of the scribe.

At Bigeh most of the inscriptions have been published; but a few fresh ones are given here, 56–9, 334–6. Bigeh, or Biggeh, is the large island on the west side of Philae; the inscriptions seem to be limited to the rocks on its south-east part above the temple; around the rest of the island, including the whole of the northern half, which is almost separate, I did not find a single letter. There is a slight mound of a village with late Roman pottery in the gap between the two halves.

The greater part of the inscriptions lie along the road from Philae to Assuan, which in its southern part branches into different valleys. The inscriptions are of nearly all periods, from the VIth to the XIXth dynasty, though mostly of the XIIth. Some, such as No. 79, are very rudely hammered; while others, as 86, are of fine monumental cutting. One of the most complete family records is that in the three fine inscriptions, 86, 87, and 114; on drawing this out we have five generations recorded: Beba the grandmother, Tetauat the mother, her five sons Usertesen-ānkh-sneferu, Usertesen-senb-penti-n, Iusenb, Amenisenb, and Senb-f. The first married Henutsenu, and had a son Res-senb, and a daughter Amensit, who had a son Nebui. The second married Thi, sister of Ameni, whose mother was Henutpu, and had seven children, Seneferu, Amensi, Teta-uat, Teta-ānkhtha, Henutapu, Teta-senbet, and Nehia. Besides these nine other persons are named whose relationship to the family is not shown.

Several peculiarities may be noted among the hieroglyphics. *Ra* appears with the serpent attached to the disc, as in Nos. 76 and 152. *N* is generally

reduced to three waves, sometimes to only two, as in No. 80; the great number of small waves being a late type of the empire, while in the middle and old kingdoms four or five is the usual number on the Assuan rocks, and six or seven is frequent on Memphite carvings. What appears at first like a decorated form of the disc *kh* (as in Nos. 80 and 270, after *ānkh*), is really the usual town sign, in a group which is not merely *ānkh* but *ānkh-n-nu*, "living in the town," or "citizen." It appears full length in No. 99. Among other titles appears *uārtu* (76, first line), which has been rendered "foot-soldier" or "courier"; but in this place it seems to belong to such a high official (Rasehotepabsenb being governor of the town according to his next title), that it rather seems equivalent to king's messenger or gentleman usher. Another title, *mer shent*, is supposed to be equivalent to master of the rolls, literally, perhaps also actually; it appears in Nos. 85, 165, 166, 168. Apparently a variant is *her shen* in No. 167. A curious variant of Sati, with the bone in place of the transfixed skin, is seen in No. 89. The title "master of the boats" occurs in No. 97, and its repetition No. 134, also in 147. A remarkable form of *sat* is given in No. 133, compared with 89.

On reaching the southern part of the long straight valley which leads from Assuan toward Philae, before it branches amid the cliffs, a pile of rock stands in the midst of it at the highest point of its bed; this pile has been a favourite spot for royal tablets of the XVIIIth dynasty, but these have been already published. On a rock just to the east of them, however, is a private tablet, No. 155, of Ramesside age, and a rough graffito, 156. The rest of the inscriptions in this road are scattered along the first mile or so out from Assuan. The Greek inscription is a splendid piece of work, equal to the very finest hieroglyphics; the sharpness of the cutting, the equality of all the lines, their depth, and clear square-cut ends, makes this a masterpiece of granite working. It stands on a block on the east side of the valley, facing west, opposite the south end of the barracks. The inscriptions of the master of the rolls, 165, 6, 8, are on a very prominent and high block below the barracks, and 167 is near these in the middle of the valley. Several other large inscriptions accompany 167, but the rock is so buried in the sand that they cannot be copied.

15. Turning now to a more southerly point we begin on the river bank at the village of Shellal. Here several inscriptions occur of the XIth and XIIth dynasties. Although No. 179 reads strictly as *Ra-s-sen*, yet it seems not improbable that this is a blundering abbreviation for *Ra-s-hotep-(ab)*, or Amenemhat I., the more so as it is quite possible for the Horus-name above the cartouche to have been intended for *nem-mes-tu*. An inscription cut by a stranger who visited the place is seen in No. 211; it records "the noble, the chief of the prophets of Hathor, lady of Kes (Cusae), named Senba." Another tablet with a royal name is No. 213, dated in the forty-first year of Mentuhotep Ra-neb-kher; it mentions the visit of Khati, son of Sitra. This is of some importance, as below Silsileh is the great tablet, No. 489; there a Khati, who bears the same title as here, appears as vizier to Antef, who adores the deceased Mentuhotep Ra-neb-kher. That Mentuhotep was deceased is not only to be presumed from the tablet, as Eisenlohr has done, but is shown by No. 443, in which Khati alone adores the mummified form of Mentuhotep. As there is in the whole of Lieblein's Dictionary of about 7,400 persons, but one Khati with the title *khebt net*, or chancellor, among the dozen or so of men bearing the name, it is not likely that we have to deal with two different chancellors Khati in the inscriptions before us. It is almost certain, therefore, that Antef of No. 489 is adoring his immediate predecessor Mentuhotep Ra-neb-kher, as Khati was chancellor within a few years of the death of Mentuhotep (from No. 213), and appears to have been retained as vizier by the successor Antef. This past ministry of his in the last reign accounts for the unusual appearance of him with the king in the adoration of Mentuhotep. This inscription (213) is on a cleavage face of granite in a pile of blocks on a low granite cliff overlooking the Nile, just at the foot of the lowest of the rapids.

There are many other short inscriptions on the rocks near No. 213; and then no more are found until reaching a village in the first piece of shore south of the cliffs below the camp. Here is cut another tablet of Mentuhotep Ra-neb-kher (also dated in his 41st year), in hieratic, by a nobleman named Merri. This is on a southward face of rock, at the extreme north of the village, some way up the cliff. Near it are also two tablets of one family; No. 244 is of "the priest, scribe of offerings of the god Tahuti, Lord of Hermopolis (Eshmunen), a noble of Nefrus (a town near Hermopolis), great one of the five in the temple of Tahuti (title of high priest at Hermopolis), Am-nefer, devoted to his lord, revivified; and his mistress, his beloved, the widow, dwelling in his heart, the priestess of Tahuti, lord of Hermopolis, his wife, Nekhtemuaimer"

The word *set*, "cut stone," with the determinative of an obelisk, occurs here after Hermopolis, but the meaning is not clear. This inscription is over Am-nefer and his wife seated, and was evidently cut on the occasion of his death. The next inscription, 245, gives a family list of another person who had the same name and office, together with some other titles; but that it means a different person is probable by the wife's name being Merit, and she having died before him; so, unless Nekhtem-uaimer was a second wife, these inscriptions must belong to different persons.

Proceeding further down the stream, the riverside path ceases, and tracks lead up to the top of the hill. Here a small cap of sandstone remains upon the granite, not yet denuded away; and where the path skirts along this, several very rude graffiti have been cut. These seem to belong entirely to the XIth to XIIIth dynasties, judging by the names—Apa (249), Sébakhotepi (252), Mentuantef (254), Khati and Ankhnes (342), Usertesen (343), Ankhu (344), Mentuhotep (345), &c. On the same sandstone cap, where a road first winds down to the most southerly valley which is reached after the cliffs, just below the English camp, there are two more graffiti of the same date, 256-7, naming Antefaker, Sebakdudu, Mentuensu (who scrawled also on the cliff east of Philae, Nos. 2 and 4), Mentu and Ameni. Below this, on the riverside, there are some rude signs on a loose block.

Further south there is a long bay broken into two or three lesser bays, between the camp cliff and the old Assuan cliff. About the middle of this part, north of the store camp in the bay, is a group of five inscriptions. Two are dated, No. 271 in the 1st year of Usertesen I., and 262 in the 6th year of Usertesen III. A remarkable inscription, of a period of which there is no other trace at Assuan, is that of Harer, a superintendent of the palace, praising, and beloved of, the daughter of King Kashta, the priestess of Amen, Amenardus. The title priestess of Amen was hereditary in the female line of the royal princesses, and distinguishes the legitimate female line of descent in the end of the empire. The other inscriptions here are long family lists; 267 and 268 name four brothers, with their mother, grandmother, and cousins on the female side; together with several other scraps of relationships which probably belong to the same family; but not one husband or father is named. No. 269 gives a long list of persons entitled *si-en-mehen*, "child of the dwelling of Osiris"; it seems hardly likely that a lot of young acolytes should be thus commemorated as deceased, so that *si* rather refers here to some adult title. That it does not refer to their being sons of a number of priestesses —and thus born in the temple precincts—seems shown by their mothers never having priestly titles. No. 270 mentions four mothers of a number of brethren, and in one case the father, Ankhsi; two grandmothers, Keku and Kemt, and one great-grandmother, Pent, are the oldest members of the family.

16. On the south side of the town of Assuan is a fine inscription, 273, cut under Usertesen I. And on the side toward the Cufic cemetery are several early inscriptions cut in large bold characters, but now half buried. They all border on the line of path which still runs out toward Philae, showing that this identical road has been in use for 4000 years; but during that time it has been so much raised by blown sand and rubbish from the successive town ruins, that the inscriptions, which were cut large and boldly because of their height from the eye, are now nearly buried. The courtiers of the Empire, as we have observed, appropriated earlier panels, and cut out the older inscriptions, sometimes leaving palimpsest traces as in No. 274, where we read an old name, Haksit, "daughter of the prince."

The rocks amid which the modern town of Assuan is built have many inscriptions on them. Some are very rude, as Nos. 279–284; but most of them are fairly cut, with shallow lines, and are of the usual types of family lists. One on the rocks below the high Nile, No. 393, is very large and deeply cut, and can be read from afar. 295 contains the only dedication in the place to *Ptah-res-anbu-sokar*, Ptah-sokar of Memphis. On the opposite bank of the Nile are a few scrawls on the sandstone, which here comes down to the water's edge (Nos. 305–7).

17. At Elephantine there are a few very rough inscriptions on the riverside; these are marked by bruising away the lustrous black coat which has formed upon the granite wherever the Nile flowed over it. There are also some better inscriptions, including the names of Aahmes II. (302), which seems to have been hitherto overlooked. By far the most interesting, however, is a set of tablets cut on a block of granite which sticks up out of the accumulated dust and mud in the beginning of the road to the village, just above the ferry. While looking around for inscriptions,

I saw the top line of this, naming Rameri, on the rock, with some heads of further inscriptions below, as this was then buried as far up as the topmost signs in the tablets. After getting a couple of men to clear away the dust for two or three feet beneath, the whole came to light. The earliest inscription has been a band along the top (309), afterward usurped by Rameri, who altered the cartouche and the prefixed title. That this must be originally before Pepi Rameri is therefore certain; and it runs rather sloping, diverging from the top of the Unas tablet below it, in a way which it would not do if cut later than that. Unas could not conform to it, as such a line would have tipped his figures over backwards. Hence it is probably before Unas. The traces of signs left in the cartouche show *Ra*, then a flat-based sign, and then *nefer* at the end. The only king to whom this can agree is Ra-kha-nefer, Hor-a-kau, in the middle of the Vth dynasty, a most likely period for it. This is the more interesting, as the king is hitherto only known by this name in the list of the tomb of Tunari at Sakkara. The only other mentions which have been supposed to belong to this same king are in the table of Abydos, where he is called Ra-nefer-f, and on scarabs bearing *Ra-nefer;* both of these are, however, referred to another king, Ra-ases-ka, by other writers, leaving the table of Sakkara as our only instance hitherto of the name Ra-kha-nefer. He is supposed to be the same person as Hor-a-kau, whose name twice appears in land names on tombs of the Vth dynasty. This line of inscription projects in the original beyond the Unas tablet, but its position is here shifted a little for the convenience of drawing. The next inscription placed here was that of Unas (312), and it is remarkable for several details. The king is represented standing, with the *hud*, so familiar in later sculptures, above him. This is, so far as I remember, by far the earliest representation of this symbol; yet it appears with all the details as in later times, the disc, flanked by serpents, amid the outstretched wings. Beneath the cartouche is a fresh title, "lord of the mountains," referring to the sovereignty of Unas over this rugged region. The line at the bottom gives a curious mode of spelling the name of the god Khnumu; first the vase *khnum*, and then the *u* expressed as a plural by three rams. Khnumu is often followed by the ram-headed god as a determinative (*see* 76, 77, 84, 106, &c.), and in one case (36) is expressed by the god with the vase *khnum* on his head; but the appearance of the three rams here as a plural is strange, and may be of importance mythologically. The next inscription here is of Pepi Rameri (309), appropriating the older inscription of Ra-kha-nefer. Unfortunately the latter part of this band is weathered away. Then Pepi II., Ra-nefer-ka, engraved another tablet (311), using the side of that of Unas. Among the inscriptions known of him there is a fragment from Girgeh, now at Bulak, which mentions the *sed* festival that appears on this tablet. This festival occurred at the *sed* or "tail" of each period of thirty years, or week's change of the rising of Sirius in the Sothis period. Next Antef-ā engraved his tablet (310), which shows us that the Horus-name (or Ka-name) Uah-ānkh, given by Lepsius (Kgsb. 156*a*) belongs to this Antef, apparently the second of Lepsius; thus showing the second and fourth Antef of Lepsius to be probably the same person, with or without the suffix of "great." We shall further consider this period in dealing with the tablet No. 489 further on. Lastly, Amenemhat I. has carved on the opposite side of the block a tablet (308) with his Horus-name and throne name. This block, with its successive inscriptions, shows plainly the decadence of Egyptian art. The details of the hawks in each inscription are enough; in that of Unas the claws are clearly shown, the legs are naturally bent, and the head is expressive; under Antef the legs and claws are sticks, and the head is conventional; while under Amenemhat the bird is a mere travesty. This series of tablets, for their age, their historic interest, and their size, are among the finest rock inscriptions of the district; and it seems strange that no archæologist walking into the village of Elephantine had noticed them before.

We have now noticed the positions and most striking points of the multitude of rock inscriptions of Assuan and its neighbourhood. Those of the island of Sehel, having been already largely copied by Mariette, we did not visit that place. This collection must be looked on as a supplement to the small number of the most important inscriptions which have been published before; but it will give a large quantity of fresh matter on both the subjects of titles and also of names, as will be seen on referring to the index of names. Those in the index with L prefixed are already published in Lieblein's Dictionary; those with a spot are variants of those in the Dictionary; the unmarked ones are fresh. The light thrown on family relationships has also to be considered; and in these and other ways this long series will afford material for study.

CHAPTER II.

THE ROCK INSCRIPTIONS BELOW ASSUAN.

18. At about six miles north of Assuan a low plateau of broken up sandstone extends out from the eastern hills, through the fertile plain, toward the Nile; it rises about twenty feet above the present alluvium, and as the road skirts along by its base, travellers have been tempted to record their names on the blocks. There are several Cufic inscriptions, and four in hieroglyphics, Nos. 313-6; but apparently not of importance.

At about two or three miles further north the cliffs approach the river, and at about a dozen feet from the ground is a fine inscription (318) of the temple scribe, Khnumu-hotep: a little further north is a name of a priest, Pa-amen-mes (317).

Two or three miles further still, the cliff descends abruptly into the river, and the riverside path has to rise over the broken slope of rock, and passes the obstruction at a high level. At the south end of this path there is high up on a flat face of the rock a very neatly cut inscription (17 inches × 29) of Haa-ab-ra (No. 321). This probably shows the date of quarrying here for building at Kom Ombo, as this quarry was the only one south of that place from which blocks could be floated down; and, as we shall see further on, the quarry marks here are the same as on the blocks at Kom Ombo. By the side of this is a boat with 8 oars roughly marked in, which is evidently far older than the tablet. Also a drawing of the forepart of a grain boat (320), showing the projecting platform at the side on which cargo is placed, and the heaps of grain, or fodder, exactly as in boats of the present time. The repetition of "scribe" about this suggests that the many graffiti of scribes on the rocks may record the scribes of estates, who accompanied cargo boats down the Nile to attend to the sale of the produce. Two names of scribes are near this (319), *Meta* and *Kakhent*. On going up the path a Coptic inscription of 14 lines is to be seen, cut at the highest point of the pass, with a long and finely-cut Arabic inscription below it. And at the north end of the path, on a large block of the sandstone which has fallen from above, many graffiti have been scratched. Nos. 323-331 show what are intelligible of them; but as the block has rolled over further since these were cut, they are many of them almost inaccessible beneath it. Just to the north of the end of the path is a small quarry.

19. We now descend the Nile for about 40 miles below Assuan, to the region of Silsileh. The most important group of inscriptions here lie along a valley which was the line of a caravan road in the early days of the XIth and XIIth dynasties. This valley was first noticed by Harris, who in 1853 worked along the Nile bank at this point; but he does not seem to have gone up it, only noticing a large scene at the mouth of it. Eisenlohr in 1869 also visited it, drawn hither by the mention in Murray's *Guide:* but he did not go up it, according to his account in the *Proc. Soc. Bib. Arch.*, May 3, 1881. The place is opposite to Silweh, and is known as Hosh; and more specifically the ravine is called Shut-er-regâl, and the group of Mentuhotep and Antef is known as Es sab'a rigáleh, or "the mighty (lion-like) men." Mariette alludes to this valley (*Des Nouvelles Fouilles*) in these words: "There exists, it is said, near Gebel Silsileh a valley in the midst of the desert, where the rocks preserve the names, cut by ancient travellers, of nearly all the kings of the XIth dynasty; in the tongue of the land it is called the Hunter's Rest; it is needful also to search there." We landed in search of this valley on the west side of the river, at a few miles below it, and thus found another series of graffiti which we shall notice further on. We here begin with the upper end of this valley; it is a ravine in the sandstone, with more or less cliff-like sides, about twenty to sixty feet high; its width is seldom more than about 50 yards, the bottom being of deep sand. The inscriptions are on the south side, which is both the most upright and the shady side. They begin near the point where a large sand-drift fills the valley; only one occurring beyond this, and that at a considerable distance (No. 357). This is in honour of Hatasu after her death, and under the reign of Tahutmes III., and is therefore a very unusual conjunction of names, as Hatasu's (or Hatshepsu's) name, so far from being inscribed after her death, was almost always erased then. As it is a funereal tablet for the chief of the works of the palace Penaa (or, as we shall see in 476, Penaati), it shows that he must have died just after Hatasu, before the edict for the erasure of her name had gone forth. Also it shows that the destruction of her memorials did not take place instantly on her decease; suggesting that her death was not accompanied or caused by open rebellion and violence.

The beginning of the series of inscriptions is on a large block bearing Nos. 358 to 365. The most important of these is the scene 359, where Ra-s-

ānkh-ka, as deceased and mummified, is seated by a table of offerings, with various attendants around him. Two nobles kneel behind him, one with Tahuti in his name; while two attendants—one named Mentuhotep—bring ibexes to offer to him. In the original there is a considerable space between these last and the table of offerings, which space is filled by a wholly different style of inscription, which is by its position evidently earlier than Sānkhkara; this is No. 366. On a block near this are Nos. 367–70. 363, 7, 8, and 9 are clearly all the same inscription written rather differently. After these a long space is bare of inscriptions, until reaching 371, etc. In 385 appears the cartouche of Ra-sebek-em-saf. This seems probably to be that of the king, as Ra was sometimes prefixed to names which are generally without it; as for instance Sneferka and Rasneferka, Ases-kaf and Ra-ases-kaf. The draught-board, with signs opposite the squares, is curious; it is marked on a flat block in the floor of the valley, on which persons could play, but the number of squares, 3×9, is different to the 3×10 always found in later times. The title *mer ast*, "chief of the place," often occurs, as in Nos. 380–2, 398, 404, 408, 416, &c. Such of the names here as are certainly legible, are entered in the index of names. The Ka-name Uaj, No. 414, probably belongs to the XIIIth dynasty from its style, though it does not agree to any of the few known of that age. The cartouches, 430, seem to be of an unknown king Ra-hor-a, or Ra-em-a, with the private name of Hotep. Though they have been a good deal bruised, it is certain that they do not represent any king hitherto known. The form need not surprise us; the ending with the seated figure *a* is paralleled in the name of king Aufna: and this might possibly read Ra-em-a, "Ra is in me": the personal name Hotep is very common at this period of the middle kingdom. No. 444 belongs to a king who can hardly be identified, although Mr Griffith and myself examined the cartouche very carefully; if not Ra-ma-kheru (Amenemhat IV.), it must be a new king. The copies signed with E. beside G.P. and ϕ, mark those published by Eisenlohr in *Proc. Soc. Bib. Arch.*, 3rd May 1881. His remark there on the omission of *makheru* after the name of Tahutmes I., in No. 476, is doubtful, as Mr Griffith has it in his copy from which I have drawn. It rather seems that Penati was superintendent of the royal works under Amenhotep I., Tahutmes I., and Tahutmes II., placing this inscription in the reign of the last; while, according to No. 357, he died just after Hatasu, and before Tahutmes III. had ordered the removal of her name from the monuments. In No. 479, a scribe has placed his name with that of his sovereign Neferhotep. And in 480 is the name of Amenhotep I., "beloved of Horus, Lord of Meh," the capital of the XVIth nome of Upper Egypt. Adjoining this, and apparently contemporary, are the inscriptions 483 and 488. The principal object in the valley, occupying the most prominent place, on a flat face of rock just at the mouth, is the large tablet of Mentuhotep and Antef (No. 489), which is raised some distance from the ground. It is cut in fine low relief, with well wrought details; as in also the small tablet No. 443, which is on a fallen block a little to the west. For the consideration of the historical results, reference must be made to the chapter on "Some Historical Data."

20. After reaching the mouth of the Seba Rigaleh valley, a straggling succession of graffiti are to be seen on the sandstone rocks, which border the west side of the Nile for some three or four miles northwards. These inscriptions (497–569) record various travellers who passed; the most important of them, perhaps, being the Phœnician inscription, No. 523. This is on a low cliff face, someway above the river, but accessible from rocks in front of the cliff; it is partly hidden by a block which lies in front of the north end of it. Professor Sayce translates it "Bodka cried to Isis," and assigns it to the 6th or 5th century B.C. (see *Babylonian and Oriental Record*, October 1887). In No. 539 there seems to be the name of Pepi.

Along with all these inscription-graffiti is a vast number of figures of animals, &c., not necessarily connected with the graffiti, and in most cases wholly distinct, and of a different age. These figures have never received any attention hitherto, and their number deters one from copying or even cataloguing them. They are of all periods; some probably done in modern times; others later than the inscriptions, but ancient; and others older than the inscriptions. Beneath the great Mentuhotep tablet are several figures of giraffes, hammered in upon the rock face, and one of these distinctly has interfered with the arrangement of a graffito of Amenhotep I. (It is possible that these figures are intended for camels; but the necks are quite straight, although raised upward, and there is no hump shown, so that it seems more likely that they are giraffes.) With this certain evidence of the antiquity of such animal figures, we may be prepared to give full weight to the collateral evidence of their weathering and appearance. One of the clearest cases is on the

great isolated rock in the valley at El Kab; there, alongside of graffiti of the VIth dynasty, is a drawing of a long boat with a great number of oars; and though the graffiti are but little darkened from the colour of fresh rock, during the thousands of years they have been exposed, yet the boat is almost as dark as the native surface of rock of geologic age. This is no isolated case; repeatedly on the rocks of the Soba Rigaleh neighbourhood, the animal figures alongside of the inscriptions are seen to look far older than the graffiti of the XIIth and XVIIIth dynasties. There is a great range of colour of the surface by which to judge; the fresh sandstone is of a slightly browny white, while the ancient weathering is of a very dark brown; the absolutc loss of the rock face being probably not the thickness of a single grain of sand during thousands of years in most parts. Hence, while on the average we might say that the inscriptions of four thousand years ago are but perhaps a quarter or half as dark as the old face, the oldest of the animal figures are perhaps three-quarters of the way toward the colour of the primitive surface. The amount of rain wash running down the face of the rock makes great differences in the colouration; but in many cases we can compare figures and graffiti close together in such a way that all natural effects are equalised. This whole subject of these primæval drawings deserves full study by itself; my object at present is to give such an account of what I saw while copying the inscriptions, as to ensure these representations receiving the notice which is due to the oldest remains in Egypt. The figures of all ages include men, horsemen, giraffes, camels, elephants (four N. of the Phœnician inscription, with tusks and trunks, and large African ears), ostriches and boats of all kinds; one of the largest boats has thirteen oars besides the steering oar, with a figure seated on the top of the cabin, and an attendant behind it. It seems probable that many of these figures date from a time when the elephant and ostrich lived in Nubia and Southern Egypt; such was the case within the period of hieroglyphic writing, as the elephant occurs in the name of the island called thence by the Greeks Elephantine.

In and near the quarries, two to four miles north of the Saba Rigaleh, are several Greek graffiti of interest (Nos. 570–579; see also Eisenlohr in Zeit's *Aeg. Spr.* 1885). They seem to have been all written by one set of quarrymen, who were there in the 11th year of Antoninus, 149 A.D. The engineer Apollonios, and the chief engineer Apollos Petesos (575, 576) were apparently the principal men; and the work was bcing carried on for a temple of Apollo (or Horus), which was very probably at Esneh, as work was executed there under Antoninus. One Psaman ... is eager to record his feat in getting out great stones of 11 cubits for the pylon of this temple (No. 571). Three of the inscriptions (570, 572, 578) mention the mooring place where vessels came to embark the stones; and (570, 571, 578?) we read of the Nile rising to the mooring place or quay. This rising took place on the 25th day of the month Mesore (see 570, 578, and 572?), which was equivalent in 149 A.D. to the 8th of July. The historical questions with which this is connected are discussed in the chapter on "Some Historical Data."

21. Turning south from the Saba Rigaleh valley toward Silsileh, many more graffiti and quarries are to be seen; a family of quarrymen are recorded in No. 592, Onēous, his three sons Psenanēs, Petosiris, and Onēs, and the son of Petosiris, called after his uncle Onēs. On reaching Silsileh, we meet with an inscription of Pepi Rameri on a large block by the riverside, below the cliff, south of the temple of Horemheb. The position of this is important as giving a decisive guarantee that no great change has affected the narrows of Silsileh since the VIth dynasty. All appearances are strongly against the idea of any appreciable difference having taken place along the river bank within historic times: certainly at the narrowest point not a foot of rock, probably not a quarter of an iuch, has been removed since the XVIIIth dynasty tombs were cut there, except occasionally where a few feet thickness has fallen down, owing to wear and decay beneath it. It is to geologic time,—when every gorge in Egypt poured down its floods into the river,—when the Nile stream rolled on 100 feet in depth, scouring banks of debris along its sides, and wearing palæolithic implements which now lie high up on the hills,—it is to that age that we must look for the filling of the vast old channels on the eastern side, both at Silsileh and at Assuan. It would need dozens of such Niles as the present to fill the old bed on the east of Gebel Silsileh; and when that was filled the present little cut through the rocks was merely a bye-path, quite insufficient for the full stream, which probably began to wear it through by rising high enough to pour over a saddle between the hills.

22. At El Kab there is a large mass of graffiti of the VIth dynasty; but knowing that they were some, or all, published, we did not stop to copy them. A few on the little temple of Amenhotep III.

are here given. No. 636 is on a pillar, plastered over in early times. The others are on the inside of the temple; and also elaborate jokes of inscription for the kas of Mariette and of J. De Rouge, and one dated in the nominal reign of the Comte de Chambord. The Greek one, No. 648, is published by Böckh in the *Corpus*, but incorrectly. The Theban graffiti do not call for any remark; they are all of the XIXth and XXth dynasties, and the king's names and private names are fully catalogued in this volume. In 693 we may just note that Alexander came from Thmuis. The Dahshur quarry marks on the stones are interesting from their age. On 697 is noted the 16th (?) day of the month Mesori. I looked longingly on the blocks for traces of cartouches, and only found what may be a part of one in No. 703, where most of it has been dressed away in building. This looks like Ra-ma . . . ., and, if so, this south stone pyramid of Dahshur must belong to Amenemhat IV. Such a result would be just in accord with the fragments of clustered lotus columns (like those of Beni Hasan, and the temple of Howara) which I have seen in the ruins of the temples at Dahshur. The style of construction of the pyramid, and its position, are nevertheless both against the attribution of it to the XIIth dynasty.

23. The subject of quarry marks is much connected with the graffiti; and while examining the quarries for inscriptions, I also took note of the various quarry marks on their sides. At the quarries of W. Silsileh and down to Silweh, it was a custom to sculpture in relief at the head of a quarry some distinctive mark by which all the blocks from there were to be known. These relief types, or standard quarry marks, are carefully carved, and some of them are given in outline in the plate (Nos. 17, 18, 19, 64, 65, and 81). Besides these, sets of marks may be seen on the quarry side, giving the standard marks with some additions; these are shown here, each group being divided by a point from the others. Probably these were type marks, to be copied on to the blocks of one particular batch. When we copy the quarry marks from buildings, then it is easy to settle from what place, and sometimes even from which quarry, the blocks have been brought. Thus all the blocks of the eastern pylon at Denderah bear the theta and arrow (53), which is the standard mark of one particular quarry north of the Soba Rigaleh (19). At Edfu on the quay we find the table of offerings (54), which seems to be characteristic of Silsileh (69, 70, 73, 93). The quay at Esneh also bears the table of offerings mark, 100, 103, and the shrine 109, like Silsileh, 79. At Kom Ombo, where no quarry lay above it from which the blocks could be floated down, except one where the path runs over the cliff, there we meet just the two quarry marks which are found at this southern quarry. The large designs, 82 to 99, at Silsileh seem hardly like mere quarry marks; but the type of a shrine may well have belonged to this quarry, from the fine shrine of Amenhotep III. which stood here, surmounted by a hawk; the fragments of this shrine and of the bird may still be seen.

CHAPTER III.

SOME HISTORICAL DATA.

24. We have already briefly mentioned the tablets of Mentuhotep Ra-neb-kher, and some of the historical results to be drawn from them. We will here consider more at length the changes which must follow in our views of the period. The tablets 489 and 443, even taken alone, prove conclusively that Antef succeeded Mentuhotep, and worshipped him, as did also the chancellor Khati; and No. 213 shows, as already remarked, that Khati had been the chancellor of Mentuhotep Ra-neb-kher, and continued in the same position under Antef. From all this we may conclude that Mentuhotep Ra-neb-kher and his wife Aāh (or Aaht, Wiedemann, or Mertefaāh, as Eisenlohr reads it) were the parents of Antef. We have obtained, therefore, two very strong presumptions from the rock inscriptions which modify our views of the XIth dynasty. (1.) We see that the form of the Antef names was not invariable; for Lepsius gives (Kgsb. 156 bis) the Horus-name Uah-ānkh, as associated with the king Antef; while at Elephantine the same belongs to king Antef-ā (310). Unless, therefore, two kings of one dynasty took the same Horus-name, a thing never known in any other case, we must believe that the adjunct *ā*, "great," was added at a later date to an Antef who began his reign without it. (2.) We find an Antef, son of Mentuhotep Ra-neb-kher, succeeding him, like the similar case where Antefaa is known to be son of queen Khnum-nefer-het (pyramidion, Br. Mus. 520), the wife of a Mentuhotep (coffin, Br. Mus. 6656*a*). Hence the Antefs and Mentuhoteps must have been to some extent alternate, and Lieblein's arrangement must be altogether set aside. The same result is very strongly marked in the rock inscriptions; there the names Antef and Mentuhotep are completely intermingled, and one is seldom found without the other near it;

they are even joined in one name, Mentuhotep-antef (598); everything points to their being of one family, and certainly not rival dynasties, or of different periods. Further, another consideration seems to have been overlooked: the Antefs of the table of Karnak must, by their insertion there, certainly be the most legitimate Theban line; and hence they cannot be other than the Antefs buried at Thebes, in spite of a difference of title. This reduces the dozen of Antefs that have been written about to less than half the number; as also the name Uah-ānkh found at Elephantine has reduced Antefā and Antef to one. And still further, these six names in the Karnak table have been said to be all Antefs; but one begins Men ....., and another is lost, so that there are but four Antefs guaranteed here.

25. Let us now, after necessarily parting from the theories hitherto held, see briefly how much can be made from the existing data; setting aside for the present all monuments bearing simply the names Antef and Mentuhotep, which are without any distinctive title or evidence of relationships. Firstly, the alternation of the two names is strongly shown, as we noticed above; and the Egyptian custom of calling a child after his grandfather we see fully carried out in the list of the VIIIth Memphite dynasty. In that, the 2nd, 4th, 6th, 8th, 10th, 11th, 13th, and 15th kings of the table of Abydos, all bear the name of Ra-nefer-ka with various distinctions. So that, with the exception of one step (due perhaps to two brothers, or the succession of a grandson), there is an unbroken series of alternate generations bearing the same name. As this immediately preceded the Antef-mentuhotep family, the same principle there may be expected. In place of believing in as many Antefs as possible, let us then rather see how few are required by history. Firstly, as a basis, we have the table of Karnak. There we read the order,—[1] Antef, [2] Men (tuhotep), [3] Antef, [4] Antef, [5] (lost), and [6] Antef. If, on the analogy of the VIIIth dynasty, we allow the lost name to be Mentuhotep as a working hypothesis, we then have only a certain irregularity of two Antefs together; and the point which exactly explains this is the succession of Antef-ā and An-antef as two brothers (Wiedemann, 223). Hitherto, this could not have been accepted, owing to the difference of names, but the tablet 310 has just shown Antef-ā to be otherwise Antef; and similarly An-antef may well be only a variant of Antef, written with both the sounds *a* and *n* of the sign *an*. Next, another clue is in the six lost kings of the Turin papyrus, probably equivalent to the six at Karnak, followed by Ra-neb-kher and Ra-sānkh-ka. This agrees to Ra-neb-kher Mentuhotep being outside of the Antef list of Karnak; and as two Mentuhoteps are allowed for in that, we have three altogether, which suffices for all historical facts. There are then the two Mentuhoteps,—Neb-hotep and Ra-neb-taui,—to be assigned to the second and fifth places of Karnak; there is not much to show which is which, but a small consideration points to Ra-neb-taui being No. 5. He is entitled on scarabs *Neter nefer*, "the good god," and we find this title assumed by the Antef No. 6, next to No. 5. It is not likely to have been taken by No. 2 and then dropped again until No. 6. Thus M. Neb-hotep will be the Mentuhotep who married queen Khnum-nefer-het-Mentuhotep, recorded on a pyramidion (Br. Mus. 520). Lastly, we have to divide between the Antefs in No. 1 and No. 6. These must be the Ra-seshes-har-apu-maā Antufā of the Abbott papyrus, and Ra-nub-kheper Antef of the same, who reigned over fifty years, and whose tomb was found by Mariette. There is little to settle the attribution between these; but as Ra-nub-kheper has left many remains, and a fine tomb, he is rather more likely to have come later on when the dynasty had more fully developed, and was evidently more flourishing, than at the very beginning of it. His long reign of over fifty years, moreover, gives room for a long co-regency to account for part of the over forty-six years of his successor Ra-neb-kher Mentuhotep.

26. We may then say that the data lead us to the following scheme of this period, referring to the Köngsbuch, Lieblein's *Chronologie*, and *Livre des Rois*.

Turin Papyrus.	Table of Karnak.	Kgsb.	Lieb.	Liv. Rois.	Names on Monuments and Remains.
(1)	Antef I.	151	68	127	Ra-seshes-har-ap-maā Antufā (Abbott pap).
			77	136	
(2)	Mentuhotep I.	162	69	128	Neb-hotep Mentuhotep. Tablet at Konosso.
			86	145	
		155	...	...	queen Khnum-nefer-het Mentuhotep (B.M. 520, 578, 6656*a*).

Turin Papyrus.	Table of Karnak.	Kgsb.	Lieb.	Liv. Rois.	Names on Monuments and Remains.
(3)	Antef II.	154	70	129	Uah Ankh. Ra- (Ter?) seshes-ap-maā Antef or Antefā; son of last. Abbott pap. B.M. 520, 6656*a*. Elephantine 310. Coffin in Louvre.
		156*a*	74	133	
			78	137	
(4)	Antef III.	156	71	130	Ra-seshes-her-her-maā Antef., bro. of last. Coffin in Louvre.
			79	138	
(5)	(Mentuhotep II.?)	163	72	131	Neter-nefer Ra-neb-taui Mentuhotep. Several tablets.
			87	146	
(6)	Antef IV.	160	73	132	Ra-nub-kheper Antauf. (Abbott pap.) Obelisks. Tomb opened by Mariette: reigned over 50 years.
			76	135	
Ra-neb . . .	... ...	159	88	148	Ra-neb-kher Mentuhotep III. Many tablets at Assuan, Saba Rigaleh, &c.; reigned over 46 years.
...	... ...	...	...	...	queen Aāh. Soba Rigaleh.
...	... ...	...	...	...	son, Antef V. Soba Rigaleh.
Rasānkh . .	... ...	165	89	149	Ra-s-ānkh-ka. Many tablets. Soba Rigaleh, &c.

I am far from saying that this is certainly the truth, but it accounts for all the kings yet known, and so far no monument necessitates our making any addition to such a list. The principal points on which this is open to revision are the transposition of Mentuhotep I. and II., and the transposition of Antef I. and IV. Also the table of Karnak might authorise making Ra-neb-kher the second Mentuhotep, and Ra-nub-kheper his Antef son; but then the order of the Karnak list, placing Rasankhha before Ra-neb-kher, is contradicted by the Turin papyrus and the tables of Abydos and Sakkara; so that it is probably corrupt here. Some revision is needful, as the accepted arrangement of Lieblein is certainly wrong; and this order, moreover, agrees better with the gradual development of the dynasty and increase of the monuments than any other. Including the other kings of this dynasty, who appear to have preceded these, Ra-snefer-ka (Lieblein No. 80), Ra . . . . (81), Ra-useren (82), Ra-neb-nem (83), and Anā (75), there are five more; these with the nine above make fourteen already accounted for out of Manetho's number of sixteen for the eleventh Diospolite dynasty. Two therefore are still to be found, either new kings, or an additional Mentuhotep and Antef link to be separated from some stated above. At all events, we are thus clear from placing Theban Antefs in a Herakleopolite dynasty, the Xth, as has been done by some writers.

27. We now turn to a very different subject. It is well known that the Egyptians used a year of 365 days; and thus losing about a quarter of a day every year, their months retrograded round all the seasons, recurring to the same point, as they believed, at the end 1460 real years, or 1461 of their wandering years. Actually, the period was 1508 years, and such we must take it in calculating the relation of the months to the seasons; although 1460 years is the period for allusions by the Egyptians to this cycle. The starting-point is given by the decree of Kanobos, line 18, in 238 B.C., when a change to a fixed calendar was fruitlessly ordered; also by Censorinus writing in 239 A.D., and by Theon (circ. 400 A.D.). According to these, the heliacal rising of Sirius, or the last day in the year on which it could be seen before it was lost in the light of the dawn on rising, was the 20th of July, and this fell on the 1st of Payni, in 238 B.C., or on the 1st of the month Thoth, the New Year's day of the calendar, in the year 139 A.D. This was, according to Theon's account, not an actual observation then, but a dead-reckoning fixed by the cycle of 1460 years from the era of Menophres, in 1322 B.C.; and this in its turn may have been either a dead reckoning of 1460 year cycles from 2782 B.C., 4242 B.C., or 5702 B.C.; or else a real observation according to a principle established actually in 2830 B.C., 4338 B.C., or 5846 B.C. If the principle were laid down, and intervening history had been confused, the era may have been re-established from actual observation, while the principle was older.

28. From this it is clear that if we have any seasonal event fixed to a given point in the wandering year, we know in what part of a cycle of 1500 years it must have occurred. This principle has been applied to fixing dates by calculating from the month in the shifting calendar in which campaigns were begun. But another and far older datum is before us, in the inscription of Una, under Pepi of the VIth dynasty. Some time ago I noticed, in the *Pyramids of Gizeh*, p. 210, how all the transport of stone must have taken place in Egypt

during the time of the inundation, both for facility of transport, and for the supply of labourers who are then disengaged. Now this is strikingly confirmed by the inscriptions which I here publish from the quarries near Silsileh (570–578). In them we see that the quarrymen awaited the rise of the Nile, and the day when it rose high enough was recorded as the 25th of Mesore, or the 8th of July. Further, Una records that he made transports in the land of Uauat, and, "at the time of the inundation, loaded them with very much granite." Now, Una does not mention the month in which he brought down this granite; but he gives what is perhaps a still better datum. A block of alabaster had to be brought from Hanub, the quarries near Siut. This work seems to have been hurried, as the short time occupied in getting it, and in building a boat for it, is specified. "I also extracted that slab in seventeen days. . . . I made for it a boat of burthen in the little dock, sixty cubits in length, and thirty in its breadth, put together in seventeen days, in the month of Epiphi." Apparently the boat was building while the block was being quarried and brought down, the period, seventeen days, being the same; and the special mention of the time, when no other such periods are named in this long inscription, shows that the work was a *tour de force*. But it was not done in time for the inundation. Una continues, "Then there was not water in the turns (of the river) to tow to the pyramid Sha-nefer of Merenra safely." This is Dr Birch's translation (*Records of the Past*, vol. ii.), the exact words being, "not water upon turns to-enter-port unto" the pyramid. The phrase "in the turns" is *her thesu*, which is considered as untranslateable as yet, by Erman; *thes* means not only a "turn," or "cord," or "knot," but also "high land" or "mountains," possibly referring to the water not reaching to the hills. The determinative needs re-examination. This does not, however, affect the sense of the passage, which shows that after the hurrying of the work in seventeen days,—a haste which would be needless if the Nile had been already low, —the vessel could not reach up to the landing stage at the foot of the causeway to the pyramid, because the Nile had begun to fall. Either a delay in coming down from Siut, or a fall of the Nile earlier than usual, had just upset their calculations. Such seems to be the very natural sense of the passage, and one exactly in harmony with the details of transport during high Nile, which we know of otherwise.

29. The fall of the Nile does not begin till the first few days of November; and, granting that it may have been rather earlier than was reckoned on by Una, we may put the arrival of the boat at Memphis (which must have been after the fall had made a distinct difference) at about the 5th November. As it had to come about 250 miles down the Nile, but may have been delayed on the voyage, the departure from Siut would be about 20th October. The 17 days of Epiphi would thus begin about the beginning of October. Hence the month Epiphi would have begun about 25th September, with an uncertainty of a week either way for the part of the month not being fixed, and another week for the state of the Nile; altogether a limit of uncertainty of about a fortnight. Now, Epiphi fell at that season in the years 400 B.C., 1910 B.C., 3420 B.C., and 4930 B.C.; each date within a a limit of uncertainty of 60 years either way. The first two dates are of course impossible for the reign of Pepi; the last also exceeds the limits of all chronologers. Hence, 3240 B.C., within sixty years, is the date shown by this seasonal statement made by Una. On looking at the various chronologies, we see that Champollion, Boeckh, Wiedemann, Unger, and Mariette, all place Pepi before this date; while Brugsch, Lauth, Bunsen, Lepsius, and Lieblein successively bring him later down in history. Hence this result falls well amongst the various reckonings; the nearest to it being that of Mariette, about two centuries earlier, and of Brugsch (by genealogies), about as much later. Even if any one may raise an objection to this treatment of the passage, yet one result is certain, that Epiphi could not have come for four months earlier in the season, as then there would have been plenty of water; hence it is equally impossible for the date of Pepi to be put anywhere between 3400 and 2900 B.C. But from all the facts—the known habit of transporting stone during high Nile (both from the Greek inscriptions and that of Una)—the special mention of the haste with which the block was cut—and yet the water being insufficient to float it to the base of the hills when it arrived—I think it may be granted that we have here a firmer basis than those yet proposed for the date of the VIth dynasty. This stands solely on a seasonal fact, and not on any uncertain festivals which may have been changed, and whose identity has been so much disputed.

30. One other datum exists which ought to be examined. The Sothis period of 1460 years falls 139 A.D., 1322 B.C., 2782 B.C., 4242 B.C., 5702 B.C., &c. But as the actual cycle astronomically is of 1508 years, it follows that Sirius cannot have actually

risen heliacally on the 1st day of Thoth (New Year's day), on more than one of these epochs; all the others are dead-reckonings by the incorrect cycle of 1460, or 4 × 365 years, from some actual observation. On which of these epochs, then, was that fundamental observation made which started the calendar? This is not a case where the knowledge of an ancient people may carry us back into a fictitious past, but where the ignorance of a people will lead us back to the real source of their error and no further. The error in one Sothis period is forty-six years (subject to small changes, for astronomical variation in the precessional and proper motions of Sirius, the length of the day, &c.); this is $\frac{1}{30}$ of a cycle; and hence, at the close of 1460 years, Sirius will not rise heliacally on the same day of the year, but at twelve days from the anniversary; or, in other words, on the anniversary it will rise forty-eight minutes too soon or too late. This is a perfectly appreciable amount; and we should, by direct observation, be able thus to settle on which Sothis epoch the cycle was started, or if it was adjusted at each epoch in default of any accuracy in the continuous chronology. The requisite observations are the present day of the year on which Sirius can last be seen before sunrise as observed in Middle Egypt; this falls in the middle of May now, and so the climatic conditions would be much the same as on the initial day in July. Corrections for the precession of the equinoxes would be required, both for the change of distance between the sun and Sirius, which would affect it differently in the dawn-light, and also for the position of Sirius to the pole, and its proper motion. If some person, suitably situated, between Siut and Thebes, would watch Sirius morning by morning during May, noting how long it is visible before sunrise, until it is not to be caught sight of owing to the glow of dawn, as it rises later each day, the main fact would be obtained of the actual interval between the rising Sirius and the sun which renders it invisible; and, with corrections, we should have the foundation of the Sothis cycles secured.

CHAPTER IV.

THE HORUS-NAMES OR KA-NAMES OF EGYPTIAN KINGS.

31. The very familiar form of name which precedes the cartouche-names of each king has not hitherto been satisfactorily explained. It has been called the Horus-name, as being surmounted by a hawk; the square name, as being in a square; and the royal banner or standard, from a mistaken idea of the lines beneath it representing a fringe. The Egyptian name for it is simply *srekh*, from *rekh*, "to know," with the causative *s* prefixed, reading "that which makes known." To determine its meaning we must first examine the earliest forms of it. As I have pointed out, in *Tanis*, p. 5, the supposed fringe is really a false door, such as is seen in the tombs. In Pl. xx. will be seen collected together all the various examples of early date which throw light upon this; most of them are from the *Denkmäler*. First, note in fig. 7 a fine example of the patterning of the earliest type of the false door, which always stood on the west side of the tomb chamber; this was the entrance by which the *ka* or double passed between the inner burial chamber and the outer chamber of offerings. The designs of these representations of entrances vary somewhat, but the typical idea of a doorway flanked by recessed panelling is always seen. This door type, by gradual dwindling of the door, and increase of the inscribed panel over it, developed into the funereal stela, as Professor Maspero has shown. Now, when we turn to the pattern beneath the square panel of the Horus-names, we find exactly the same design; compare especially figs. 3 and 7; note the little space over the door niche (equivalent to the "drum" in real doors), and see how like fig. 7 it is reproduced in figs. 1 and 4. It is quite clear that throughout the old and middle kingdoms the idea of a false door of a tomb was before the sculptor's mind. Turn next to the Empire, when such false doors had ceased to be made, and were unfamiliar objects. We then see that an actual realistic entrance was represented. In fig. 12 the two sides of a double door are clear. Fig. 13 is the sumptuous patterning of the decoration beneath a Horus-name (equal to the so-called fringe), on a recess at the Deir el Bahri temple; the shading here is according to the heraldic colour signs, only the chequer square should be red and white in the square portions, and yellow and white in the long-shaped parts. Here, not content to show only the sides of a door, the painter put in the lintel, door sill, pivots, cross beams of the door, and the two bolts. This precious example is conclusive that the idea of a door of access was still the meaning of this ornament. A little later, in fig. 16, we see a double door with its framing and diagonal braces shown. A simple form of doorway also appears at the same

time in fig. 19. Descending to Ptolemaic times this space beneath the name was still regarded as a doorway; and it is shown—both under Ptolemy II. (fig. 20) and Ptolemy XIII. (fig. 21)—as a straightforward doorway, and nothing else, having its double door closed by a pair of bolts. We need not say more to prove that throughout Egyptian art, from Seneferu to the last of the Ptolemies, the Horus-name was intentionally and knowingly written over a doorway, which, in the earlier cases, is seen to be copied from the false door of a tomb.

32. What does this connection mean? The square in which the Horus-name is written must be the exact equivalent of the square panel over the false door in the tombs, and the name is the equivalent of the figure and name of the deceased written on those panels. It is the name of the king as deceased; the name as owner's name, written over the doorway. But it was the *ka*, or double, or ghost, of the deceased person which possessed that doorway; it was solely for the *ka* to pass from the burial vault beneath (the shaft of which was supposed to pass behind this false door) into the upper chamber, where its food of funereal offerings was provided for it (see Professor Maspero's *Archéologie Egyptienne*, p. 115, &c.). The name therefore must be the name of the *ka*. Private persons had but one name, and their *ka* was of the same name. But a king, who took a second name on ascending the throne, took also a third name for his *ka*. This *ka* name alone occurs on the doorway in the Step pyramid of Sakkara. Under the Empire, as he had many *ka* statues, so he had many *ka* names.

33. Now observe what the monuments show us. Behind the actual fleshly king, there is often shown his double or *ka*, making offerings with him. Sometimes the *ka* is of the same size as the king, sometimes lesser. And on his head he bears, as in fig. 15, the Horus-name embraced between the *ka* arms. For fear even this was not sufficient, an inscription nearly always accompanies him, reading, in 15, "The king's *ka*, life of the lord of both lands (Upper and Lower Egypt) within the chamber of the sarcophagus, and within his chamber of offerings; all life, happiness, and stability, all health to him, all joy of heart to him, like Ra." The word "within" (*khent*) may mean "presiding over," but the sense is unchanged. It could not be stated more explicitly that the *ka*, which bears the Horus or *ka*-name on his head, is to pass from the body to the offerings, by the very doorway which is represented beneath his name. Slightly different is the idea on a beautiful sculpture at the Bath Museum, where Ramessu II. is accompanied by his *ka*; the king having his cartouches, and the *ka* having the *ka*-name above him. Behind them is the inscription 14:—"The king, Ra-user-ma, Sotep-en-ra, within the chamber of his sarcophagus. The king's *ka* (who is) the king gliding in the temple (or place of worship) within the tomb." The last sign is strange; it must mean the tomb; and it looks as if intended to show the dark opening of a rock tomb, beneath the mountains, whose sign is upon it. Here the king's body was to remain in his sarcophagus, while his *ka* was to glide about in the outer chamber, where offerings were provided, either of perishable materials, or imperishable representations. In inscriptions 17 and 18 is a shorter form which only relates to the benefit of the *ka* to the body. "The king's *ka* living within the chamber of the sarcophagus, giving him life and happiness," and "the king's *ka* within the chamber of the sarcophagus, giving him life." Another form of the same idea is where the *ka*-name appears to act and live of itself, provided with *ka* arms which hold a feather, and a staff surmounted by the head of the "king's *ka*" (fig. 16); and this is known as late as Tiberius (fig. 23). The *ka* was young when the king was young; Amenhotep III. as a child, at Luxor, is borne by a nurse, and has also his *ka* borne by a nurse behind him; the *ka* wearing the *ka*-name, between the *ka* arms, on a stand upon his head.

It is needless to multiply examples or to describe them further. The *ka*-name of the king was always, down to the latest times, associated with the doorway of the tomb by which the *ka* passed to and fro; and the *ka* itself whenever represented, from Amenemhat I. (fig. 10) down to Vespasian, always bears the *ka*-name upon his head, as his special name. Let us henceforth, then, recognise what is so amply and carefully explained to us on the monuments, and write of the *ka*-name as we do of the throne-name and personal name of each king. The subject of the significance of the *ka*-names, when thus understood, I must leave to authorities in the matter of reading; generally the names seem to refer to virtues or deeds of the king which would avail him in his journey through the hours of night, or to place him under the protection of some deity; while such names as *Kau-neteru*, *Ka-nekht* (written with the *ka* arms, as well as the bull) *Usert-kau*, *Khent-kau-ankhu-nebu*, &c., should not be overlooked in their allusions.

CHAPTER V.

FUNEREAL CONES AND OTHER INSCRIPTIONS.

34. In most Egyptian collections are to be seen a few long cones of pottery, stamped on their bases with inscriptions in relief; generally but few of these are brought home by any traveller or collector, their weight and cumbrousness being inconvenient. Hence they are far scarcer in museums than would be expected on seeing their numbers at Thebes. But few have been published hitherto; perhaps twenty or thirty types, at the most, from any one collection; yet their interest and value are quite equal to that of the shorter funereal stelae. While at Thebes this year I steadily collected them from the Arabs, and as the inscriptions are all that is really required, the bulk of the cone was removed, either by sawing, if soft, or breaking, if hard. Thus, with a very small loss, I reduced a collection of over 250 to a more manageable bulk. On working through these in England they were seen to be of a hundred different types; and these, with two or three that I have seen since in England, are published here in Pls. xxi–xxiii.

The sizes of these cones are variable; some are 15 inches long, and 4 inches across the inscribed base; others are not more than half that size each way. They are nearly always solid, and are usually painted white, sometimes with a coat of red beneath it. They are found always outside the tomb; either in the sand and chips which covered over the entrance to the tomb, or, it is said, in the sand before the entrance. Among those here shown, probably one of the earliest is No. 72 of Amenemhat (XIIth dynasty?), and the latest, that of the king's son, chief of the Mashuash (99) (XXIVth dynasty). The custom of making these cones seems to have covered the long range of history, from the rise of the middle kingdom to the incoming of Greek influence, as Professor Maspero states them to range from the XIth to the XXVIth dynasty. His explanation of their meaning, as representing the conical loaves of bread with a floury outside, seems obviously true. They are only known at Thebes; and they seem to have been made there, much as stone figures of ducks and other eatables were made at Memphis, and offered for the perpetual sustenance of the *ka*. (See "*Guide au Musée de Boulaq*," p. 138). Occasionally these offerings are not conical, but square cakes, sometimes wedge-shaped, and stamped on the edges.

35. In dealing with some hundreds of these, it is necessary to have some simple and direct method of classifying them. Generally it happens that no one example of a cone gives the whole inscription; and hence the need of comparison, and the difficulty of sorting by the names, since the name being at the edge is often lost. Sorting by alphabetic names, moreover, cannot give a grouping according to age or class; and some characteristics of the style are therefore better to follow for classification. As a simple system, which is always applicable, I have here begun with the inscriptions in vertical columns, from five down to two columns (1–47); next those without dividing lines, which are read vertically in three or two parts, or a single column (48–63); next those reading horizontally, in two, three, or four parts (64–70); then those with horizontal dividing lines in three, four, or five divisions (71–99); and lastly, various arrangements with scenes (100) and in square borders, or in cartouches (101–7). The copies here given do not profess to be exact facsimiles, but to show the general style and forms of the signs; the narrow raised parts being represented by a single line, and the broad raised parts being outlined. The numbers following some of them show the number of copies examined. By the arrangement here followed, it will be easy to compare other cones with this collection; and such a system would be perhaps the best also for a museum.

36. As some readers may wish to follow out the reading of these cones, and as they form a good series of short titles, translations of them are here given; for several of the readings I am indebted to Mr Griffith, who has also worked over them. The opening formula which is most common is *Amakhi kher Asar* (*ee.g.* 4–9); this is perhaps best rendered "Devoted to Osiris"; it is abbreviated as D. O. below here. Another formula is *Asar* (*ee.g.* 14–16) "the Osirian," or the deceased as identified with Osiris; marked below as O. The usual title of deceased persons, *makheru*, which follows the determinative figure at the end of the name (see 20, but usually appearing as merely two lines) is, according to Professor Maspero's explanation, the "true voiced," *i.e.*, possessing the true intoning of the defensive formulæ for the unseen world; it is below here abbreviated as T. V. Of the meaning of *nebt per* as "widow," at least in earlier times, the reasons have been fully stated in sect. 10 on the Assuan inscriptions.

1. D.O. Scribe of the accounts (v. 37) of the cattle of Amen, ... the nomes of the south and the north,

Hebi, T.V.; son of the scribe of the accounts of the cattle of Amen, Ames . . . . born of the widow La . . . . (*see* 21).

3. D.O. Guardian of the vases (?) of Amen, Tahersettnef; by his son, making his name live, guardian of the vases (?) of Amen, Herari, T.V.
4. D.O. Guardian of the vases (?) of Amen, Tahersetnef, T.V.
5. D.O. The priest Her-ar-n-re-ga, T.V.
6. D.O. The prophet of Ra-ā-kheperu (Amenhotep II.), Nefer-neb-neb, T.V. His sister the widow Ta . . . . uai.
7. D.O. Scribe of the city . . . . Tahuti-em-heb, called . . . . un-sa-er-su, T.V.
8. D.O. Master of the sailors of the chief prophet of Amen, Mer-pet-f (?); the widow Mut.
9. D.O. Chief in the heart of the king, Amen-nekht; T.V. before Amen. His sister the widow Mut-nefert.
10. D.O. The hereditary noble, overseer of cattle (?), overseer of workmen, overseer of . . . ., overseer of the cattle of Amen, Mai, T.V.
11. D.O. Scribe of the table of the lord of both lands, (the king) Neter-mes.
12. D.O. Amenemhat. His wife, the widow Sitamen, devoted to the great god (the king).
13. D.O. . . . . of Amen . . . . Amenhotep.
14. O. . . . . of Ra-ā-kheper-ka (Tahutmes I.), A-kheper . . . . devoted to the great god.
15. O. Overseer of the mares, overseer of the cattle of Amen, Piaa . . . .; by his son overseer of the cattle of Amen . . . . T.V.
16. O. Overseer of the mares of the king of both lands, south and north, Meru . . . . T.V.
17. O. Hereditary noble, seal bearer, high prophet of Amen, Ra-men-kheper-senb. (v. 98) T.V.
18. The royal scribe the overseer of the temple of Amen, overseer of the granary . . . . pa-sar T.V.
19. Scribe of the accounts of the cattle of Amen, lord of the gods. . . . .
20. Scribe, overseer of the house of the head prophet of Amen-Ra, Amenhotep, T.V.
21. Scribe, overseer of the granaries of the divine wife (queen), Amenhotep, T.V.; the widow Lau T.V.; born of the overseer of the granaries, Ka-Ra, T.V.; born of the widow Mahu T.V.
22. Overseer of the palace . . . . the royal scribe Khem-du-f-an. . . . .
23. The tutor (father-nurse) Aahmes; overseer of the royal harem, Aahmes; overseer of the sanctuary (cellars ?), Aahmes; overseer of the cattle, Aahmes.
24. For the *ka* of the chief prophet of Aah, Nefer-aah, T.V. in peace. The widow the chantress of Amen, the praiser of Mut, Neter-hemt, T.V. in peace.
25. Satisfying the heart of the king, the captain of the bodyguard, making pleasant the land to its extent . . . . Deped. . . . .
26. The transporter of the cattle (?) of Amen . . . . overseer of the western hill (necropolis) of Thebes . . . . ididm. . . . .
27. Master of the serfs, Aahmes; born of . . . . Aah-hotep, T.V.
28. Royal scribe, overseer of the granaries of the south and the north, Kh . . . . ser. T.V.
29. D.O. King's son of Keshi (viceroy-prince of Ethiopia) Mermes.
30. D.O. . . . . chief of the priests of Amen, An-ta-ua-ref.
31. D.O. Chief lieutenant Amenhotep, T.V. His sister the widow Arti, T.V.
32. D.O. High prophet of Amen, Amenhotep.
33. D.O. . . . . kha, T.V. His . . . . the widow Hent-taui.
34. D.O. Scribe Aanen.
35. D.O. Captain of the bodyguard, Hebi (v. 25).
36. D.O. Guardian of the vases (?) Nefer-renp.
37. O. Scribe of the accounts of the cattle of Amen, Amenhotep, T.V. His wife, the widow Sit-amen.
38. O. Scribe of the treasury of the lord of both lands, Simut; son of the judge Pabak; born of the widow Tanefer, T.V.
39. Second prophet of Ramen-kheper (Tahutmes III.) Amenemka (v. 53); his wife, the chantress Re-merit.
40. Fan bearer of the royal boat, Kha-em-ma, son of Aset T.V.
41. Chief of the followers, captain of the selected recruits, Pasar (see Assuan inscriptions 35, 41–3).
42. Third prophet of Amen, Hotep, T.V. His wife, the widow Amenhotep.
43. Overseer of the treasury; overseer of the works; Ta-hutiamakh, T.V.
44. Overseer of the cattle of Amen, Ha-tahuti.
45. Overseer of the treasury, scribe, Khonsu.
46. Captain (superior of the archers), chief of the infantry, Amenemapt.
47. Commander of the infantry, Amenemheb.
48. D.O. Administrator of offerings of funereal vestment (or chief of the police, v. 77), Lele, T.V.
49. D.O. Scribe, Sen-neter, T.V.
50. . . . . chief of the prophets of Anhur, scribe, Khem- . . . . T.V.
51. The noble, scribe of the words (?) . . . . of the lord of both lands, Pa-ura . . . . T.V. His son the scribe Hap.
52. Seal bearer, high prophet of Amen, Khem, and Menthu, his name Sen . . . . ar, T.V.
53. Seal bearer, fourth prophet of Amen, Ka-em-amen (v. 39).
54. Captain Aah, born of Shepstuhat (?) T.V.
55. Great scribe, Amenkena, revived (living again) T.V.; born of the scribe Neferemheb.
56. An official of Ra-user-ma, Meri-amen-Shenk (Shes-hank III.).
57. Scribe of the fields of the queen, Tera, T.V.
58. Scribe of the queen's palace, Tahuti-nefer, T.V.
59. Captain, Hatmeshau.
60. Governor of the city, Amenemapt.
61. The recruit (see Assuan inscriptions, 35, 41–3), Pen-amen.
62. Governor of the city, Hapu, T.V.
63. . . . . of the treasury.
64. Priest, Tetanefer.
65. Royal scribe, overseer of the treasury, Amenemha.
66. Fourth prophet of Amen, Si-tahuti, T.V.
67. Scribe of the account of the bread of the south and north, Amenemhat.
68. Priest of Amen, Userhat, son of the noble Adehmes.
70. The noble, overseer of the granaries of Amen, overseer of all the seals of the temple of Amen, the scribe Anen, T.V.
71. D.O. Scribe Ma . . . .; the widow Hui.
72. D.O. Priest of Amen, Amenemhat, T.V.
73. D.O. Scribe of the temple of Set, Nefer-mennu, T.V.

74. D.O. Scribe of the accounts of bread of the lord of both lands, Usi, T.V.
75. D.O. Scribe of the fields, Nebmehti.
76. D.O. Scribe of the treasury of Amen, Meri.
77. D.O. . . . commander of the police, Simut, T.V.
78. O. Royal scribe, the fan bearer on the . . . . of the lord of both lands, Surer (temp. Amenhotep III., statue in London, No. 123).
79. Scribe of the royal bread, Piaa; his wife, the widow Netemt.
80. Scribe of the granary . . . . of the bread, Pa-amen.
81. The chief (priest) of Mentu, lord of An (Hermonthis), the scribe, Kanekht.
82. Priest of Amen, ... Ra-āa-kheper . . . . Pasu. . . . .
83. D. Overseer of the royal harem, Us-ha, T.V.; son of the judge Neh, T.V. born of Anpu. . . . .
84. D.O. Scribe of the works of the palace of Ra-ma-neb (Amenhotep III.) on the west of Thebes, Anhurmes, T.V. before the great god.
85. D.O. Fourth prophet of Amen, Menthuemhat, T.V.; his wife (see Turin No. 3425, where Ultarenset is his son's mother) loving him, royal relation, the widow, Utarenset, T.V.
86. D.O. Priest, scribe of treasury of Amen, Userhat; son of the scribe of the treasury Nebhebu.
87. D.O. Overseer of the fields of Amen, head sealer of the jars of Amen, priest, Nefer-kha T.V.
88. O. Chief reporter of the lord of both lands, praiser of the good god, near his heart (?) Menkh-ra.
89. O. Chief (?) priest of Amen, director of the palace, Amenabt, T.V. His sister loving him, chantress of Amen, the widow Tamut.
90. Fourth prophet of Amen, royal scribe (?), Menthuemhat, T.V. His chief son, of his body, prophet of Amen, royal relation, Nesptah; born of the widow Neskhon(su).
91. Fourth prophet of Amen, noble of the town, Menthuemhat, T.V. (His) son, prophet of Amen, scribe of the drink offerings (?) of the temple of Amen, noble of the town, Nes-ptah, T.V.
92. Royal offering to Osiris, chief of the west (?) may he give the sweet breath of the north wind, ... for the ka of the scribe Rema.
93. The hereditary noble, the chancellor, the sole companion, beloved, the true (real) royal relation, overseer of the great house, guardian of the god, Abaa . . . . . beloved of the god the living Horus.
94. . . . . the chanter of Amen, Meru-f.
95. O. Scribe of the festivals (?) of Amen, Tahuti-nefer; his name Seturti (?) T.V., born of the scribe Messu, T.V.
96. The chancellor, overseer of the prophets of the south and north; high prophet of Amen, Meri; overseer of the temple of Amen, overseer of the granaries of Amen, Meri; overseer of the treasury of silver, and overseer of the treasury of gold, of Amen, Meri; overseer of the cattle of Amen, Meri.
97. The chancellor, chief prophet of Amen, Meri; overseer of the prophets of the districts of the south and north, Meri; overseer of the fields of Amen, overseer of the granaries of Amen, Meri; (keeper of) all seals in the palace of the king, life, wealth, and health to him! Meri; overseer of the cattle of Amen, Meri.
98. Overseer of the cattle of Amen, guardian of the temple of Amen, body-servant of the good god (the king), scribe of the food of the lord of both lands, Ra-men-kheper-senb, T.V. before the good god (v. 17).
99. Son of the living Horus, the noble, great chief of the Mashuash . . . . overseer of the prophets of Ba-nebdadu (Mendes) . . . . born of the widow Shapen (ast?) T.V.
100. (He) says (I am) devoted to thee, Osiris; (he) says (I am) devoted to thee, Anpu.
101. D.O. The hereditary chief, chancellor, sole companion, ... of the lord of both lands, high prophet of Amen, Amenemhat.
102. Overseer of the . . . . of Khem, and of Isis, Amenhotep, T.V. His sister, the widow Kedtmert.
103. Royal offering to Osiris, lord of eternity . . . . chief of the police? . . . .
104. O. Prophet of the lord of the land, overseer (?) of the priests, Ser-ka.
105. Governor of the city, Tetamekh.
106. Overseer of the serfs, Ai.
107. The lord of both lands Ra-user-mā-mer-amen, happiness and life, lord of the diadems Ra-messu-hak-an (Ramessu III.) every day (perpetually) the good god, living.

37. It now remains to notice the other inscriptions on Pl. xxi. The stela of Mes (fig. 1) is of interest, as very few notices of the two earlier kings named on it are to be found elsewhere. First, there comes after the priesthood to gods, the mention of the priesthood to the king Tahutmes I.; then to an earlier king Tau ā ā, apparently the second of that group of Rasekenen kings, though slightly modified from the form in the Abbott papyrus; and then is the priesthood to Kames, who thus appears to be the earliest of these three. The usually accepted relation of Kames, as husband of queen Aah hotep, and father of Aahmes I., seems to be based on the jewellery found with that queen; as, however, that find probably came from the first plunderings of the treasure of the Deir el Bahri cave, the collocation of the objects is of no historical significance. This tablet is of good work in fine Theban limestone; I purchased it at Thebes, and exchanged it to M. Grèbaut, who wished for it at the Bulak Museum. The other objects on this plate, not being required at Bulak, I have brought home.

The statuette of Sebekemsaf (fig. 2) is in fine grained dark green basalt; it is of heavy, cold, work, but not badly finished; the style is much like some figures from Ekhmim, but the mention of Khonsu makes it more likely that this belonged to Thebes, where I purchased it. The height of the figure is 11½ inches to the broken neck. This is of interest, as monuments of this king are rare; the only other remains of his being the statue at Bulak from Abydos, the rock tablets at Hamamat, his ushabti-box of wood, and his heart-scarab.

The statuette of Tahuti (fig. 3) is a small enveloped

squatting figure in a block form, headless, well cut in limestone. The stela of Mahu (fig. 4) is in sandstone. Both purchased at Thebes. The torso of a figure of Horuta (fig. 5) is finely carved in the hardest and closest black basalt, the piece from the waist to the neck being 8½ inches high. It names "the devoted to king Nekau (who is like the sun), the hereditary noble, superintendent of the gate of the mountains, Horuta." He states that he was sent with the workmen to some place (the name unfortunately lost) to "make great obelisks of granite, and monuments all of basalt and granite." Horuta seems therefore to have been the chief quarrymaster to Necho. I purchased this at Memphis; as also the piece of a fine alabaster canopic jar of Li (fig. 6) with the inscription complete. At Tell el Amarna, amongst other little things, I got the two limestone stamps, one of Khunaten (fig. 7), and the other of queen Thi (fig. 10); also a slab of limestone with the lower part of the face of Khunaten of the finest work, and a small headless and kneeless figure of one of his little daughters, well carved in sandstone. At Thebes, an Arab dealer sold me a fine green glazed scarab of queen Amenardas (or Ameniritis) and king Kashta, bearing traces of gilding; and with it a piece of a dark brown limestone ushabti of Amenardas (fig. 8); only one (in the Louvre) is hitherto known. This suggests that her tomb has been lately re-entered; its place is unknown to Europeans. The little base of a head-rest (?) from Thebes, in limestone, names the sister of Amenhotep I., Amenmert, who is only known otherwise in the tomb of Ken at Thebes, and on the sarcophagus of Butehamen now at Turin (Wiedemann, Geschichte, 314, 317). The fragment of a standing statuette which I got at Memphis is of interest; it is made of the finest light green stoneware, though cracked and spoilt in the baking, or rather incipient fusion, which it has received in the manufacture. The work is very delicate and detailed both in the dress and the anatomy of the knees; and from its style, as well as the colour, it seems very hard to assign it to any age but the IVth century B.C., the nearest parallel being the green stoneware of Hakar. Though the second cartouche is lost, we can hardly err in attributing this to the king Amen-rut, the fragment of whose sarcophagus is at Berlin, and whose crystal vase is in the Louvre; no other king since the XXIInd dynasty was named Ra-user-mat. These cartouches have been variously attributed to Urdamen of the XXVth dynasty, and to Amyrtaeos of the XXVIIIth. But now the style of this fragment strongly shows that Lepsius and Wiedemann are right in the attribution to Amyrtaeos; since it would be scarcely possible to assign this piece to the VIIth century B.C. (Urdamen); while, on the contrary, it precisely accords with the style of the IVth century under Amyrtaeos.

CHAPTER VI.

THE PYRAMIDS OF DAHSHUR.

38. On the flat limestone plateau which borders the Nile valley, there stand the four pyramids of Dahshur, at about 17 miles south of Cairo. Like all the other pyramids they are on the western side of the stream; but the larger two are placed rather farther back into the desert than is usual, being about a mile and a half from the cultivated land. The lesser two are lower down, on more broken ground, which was not a favourable site for great structures. The desert in this region is much cut up by shallow valleys all along its edge; and its surface is not of barren rock, as it is in many other places, but consists, for some considerable depth, of marly insoluble remains, probably derived from the limestone which has been removed by solution. This material, however, has been long beneath water, and re-deposited by water, as the flints in it are broken small and completely rounded, in place of being in large nodules or sheets. This bed is analogous, in short, to English clayey gravels; just as the limestone with flints beneath it is analogous to chalk, though stratigraphically of a rather higher level, belonging to the middle Eocene.* This material was not favourable for a foundation; but all the pyramids of this region (so far as we know), are based on a layer of pavement placed on the cleared gravel, and not sunk down to a rock bed.

I had hoped to have completely surveyed all of the Dahshur pyramids this year; but the long delay in obtaining the necessary order from the government to permit me to remove the broken chips, prevented my attempting to examine the two lesser pyramids. And on clearing the rubbish about the northern large pyramid, the ancient construction

* I may as well note here my finding a large palæolithic pointed flint, well worn by river action, on a spur of the desert hills about six miles west of Esneh, and about 200 feet above the present river level. This shows that the high level of the water in the Nile valley, of which there are such abundant signs, was not at all remote, geologically speaking.

was found to have been so much destroyed that it would need much work to find any traces of the original base; this, therefore, was also impossible for me to survey in the short time I had left. The southern large pyramid, and the little one adjoining it, are therefore all that are here described, and in several respects this pair are the most interesting and important of the group. The two lesser pyramids, though originally appearing like the others encased in fine limestone, were in their bulk all of crude brick; the limestone only now remains in chips around, and a few blocks buried at the bases, and these pyramids are always now known as the brick pyramids. It is important to see in the southern one that it was not built by concretion, or enlargement by successive coats, but, on the contrary, in flat courses. This is shown by the varied colours of the different batches of bricks, some blacker, some greyer, some browner; and where deep gashes have been made in the side of the mass, the varied courses may be seen extending into it in horizontal lines. Hence the pyramid was begun of its full size of base, and gradually completed, course by course; agreeing thus with what was certainly the system in building the large pyramids of Gizeh (see *Pyramids and Temples of Gizeh,* pp. 163–5.) At the northern large pyramid, which is of stone, I had made a triangulation around it while waiting for permission to clear the chips away; but as my remaining time would not suffice to find the remains of the original base, this work was useless, and all I could do was to observe the present slope of the rough surfaces of the core masonry. This appears to be on the N. 44° 42′, E. 44° 32′, S. 44° 30′, W. 44° 41′, mean 44° 36′ ± 3′. Hence it is clearly not 45°; and the only likely rule for its construction seems to be a slope of 7 on a base of 5, as this would require an angle of 44° 34′ 40″, which is within the uncertainties of this pyramid. Vyse states this as 43° 36′ 11″, apparently just a degree in error.

39. The southern large pyramid is remarkable for being built in two different slopes, the upper part flatter than the lower, and also for still retaining a large part of its original fine stone casing. It is built of stone throughout, as also is the lesser one adjoining it, and the peribolus wall around them. To what reign it is to be assigned is very uncertain. The similarity of some points of construction to those at Gizeh lead one to suppose that it is of the IVth dynasty. The work is certainly far better than that of the Vth and VIth dynasties at Sakhara; but it might belong to the fine period of the XIIth dynasty. In favour of this latter view we may notice, in the ruins of the temples which adjoin the brick pyramids here, that the columns were like those in the tombs of the XIIth dynasty at Beni Hasan, and those of the same age at Hawara; the fragments show them to have been composed of six colonnets clustered together, in all about 27 inches across. On one of the blocks of the south stone pyramid is apparently a portion of a cartouche, most of which has been dressed away (*see* inscriptions, No. 703); and among all possible names this certainly would correspond only to Ra-nıa-(kheru), Amenemhat IV.

40. The general method of the survey was like that which I made around the pyramids of Gizeh six years before.[3] A triangulation was formed around the pyramid on fixed station marks, and from these shorter measurements were made to the ancient points of construction, by lineal measure or smaller triangulations. As, however, only one pyramid and its surrounding parts were to be surveyed, it was not desirable to encounter a large triangulation, extensive enough to form a thoroughly stiff series of sufficiently large triangles all around the pyramid. A better result could be obtained from the same amount of work by rendering each side independent of the observations on the other sides; or, in fact, by measuring each side separately. As the rise of the rubbish on each face quite prevented the corners from being visible from one another, a point was therefore chosen so near to each corner as only just to be visible from the similar points at the other corners; in short, the least square visible from corner to corner, EFGH on the plan, Pl. xxiv. Then to determine the length of each of the sides, a base line was measured along the flattest and most suitable piece of ground at each corner, EJ, FK, GL, HM; and the angles were observed subtended by these bases, as seen from the other end of each side, EFJ, FGK, GHL, HEM. These secondary points, J, K, L, M, not only served thus to ascertain the lengths of the sides of the square, E, F, G, H; but they were also so placed as to triangulate well with the corner of this square, for fixing the station marks placed at the corners of the pyramid itself, A, B, C, D. Thus altogether there were three first-class checks in the set of observations: first, the sum of the four corners of the square, EFGH, must be 360°; second, the length of its north side checks the length of the south side, the angles being known; third, the east and west sides check each other likewise. The actual adjustments required to reconcile the

observations, are an average change of 2″ on each of the azimuths observed along the sides; an average change in the angles of subtention of the measured bases of 1·2″ on each azimuth, or else an equal change of ·14 inch on each of the measured bases, which is equal to the effect of .7° cent. of temperature. Or, if no such corrections be made, the whole discrepancies of the lengths of the sides of the square amount to an average of ·6 inch on 9000 inches. The results of the main triangulation may therefore be trusted to within half-an-inch. The surrounding points of the peribolos and the small pyramid were fixed by minor triangulation from the main stations; the lines of this triangulation are not shown on the plan, in order to avoid confusion. The details of the nature of the remains at each point will be stated further on.

For fixing the azimuth of all the triangulations a set of four observations were made with the small theodolite on Polaris, with as many on Sirius to give the sidereal time. The result for time showed a mean variation of 6 seconds in the observation, or of 50″ in the angle between Polaris and Sirius. The probable error of the resulting azimuth is rather under 1′; an amount of error due to the great difficulties of illuminating the field so as to see the spider lines and the stars together, and the reading the circle by candlelight. We had also to keep our lights shrouded as closely as we could, as my men were much afraid of attracting some roving thieves from the Fayum road which passes these pyramids; and the examples we had seen of the doings of these gentry were not re-assuring.

The instruments used were those already described in the *Pyramids and Temples of Gizeh*, chapter ii., as having been used for that survey. The main theodolite was the very fine one of Gambay's, with 10-inch circle, verniers to 3″, and powerful microscopes. It was always centered over the stations by transiting with two small theodolites, set up about twenty feet from it at right angles; these were duly levelled, and pointed to the station; then they were elevated to point to the large theodolite, which was slid about on its stand, until the cone of its circle was bisected by both of the small theodolites. The short distance triangles were done with the small theodolites of 4 and 5 inch circles. The base lengths were all measured by a steel tape in catenary suspension, as that is by far the most accurate way of working in the field. Stones were placed to receive marks at each 100 feet of length; the tape, held at one end by a stand with a hook, and by a lever weight at the other, was kept at a constant tension, the stands which held it at each end being temporarily weighted down by blocks of stone. Then I walked from end to end alternately five or six times, reading the station marks on to the tape, and so taking the length between the pair of marks. When they were ascertained, the tape was moved on another length, and 100 feet more read similarly. The readings, apart from gusts of wind, seldom varied more than 1-50th inch, and were often the same 1-100th inch throughout. The manner in which the tape would be shortened by a puff of wind, and then spring back to the same reading again, was a good proof of its delicacy of action and freedom from friction on its supports. The ends being at six inches from the ground, the length of 100 feet generally needed two supports in order to suspend it clear of the ground; with only one support in the middle, the shortening due to the catenary mode of suspension is but ·04 inch, and with two supports this is reduced to ·03, on the whole length of 1200 inches, with the standard tension of 10lbs. The small corrections are easily applied for catenary shortening, for difference of level in the supports throughout, and for temperature; the last was always read with three thermometers, one facing the sun, one facing the ground, and one in the shade, and the best circumstances for work are a cloudy sky and gentle hot wind, at about 90° to 100° F.

41. The south pyramid, according to this survey, was originally of the following size and shape, upon its pavement surface :—

N.	7463·2 inches	—10′ 35″	(N. of E.)
E.	7453·4 "	?	
S.	?	—13′ 53″	(N. of E.)
W.	7460·3 "	— 3′ 8″	(W. of N.)
Mean	7459·0	— 9′ 12″	

The construction of the base differs much from that of the pyramids of Gizeh, owing to the absence of rock foundation; yet the principle is the same. The level which was intended as the apparent base, or pavement level, is fully fixed by the fine white mortared pavement which was found outside the place of the stone paving, at the E.S.E. and S.S.W., as well as by the pavement found *in situ* at the N.N.E., E.N.E., and N.W. No doubt therefore can exist on this point. At the N.W. corner, which is the best preserved, there lies a large socket block in the ground; its level is 13 inches below the pavement, part of which there still overlies it. This socket block bears a sloping bed on its upper face,

as all the bedding of the courses of this pyramid is inclined inwards 5° or 10°. This bed is well dressed, having of course a slight re-entering angle along its diagonal, where the sloping bed of the north side cuts that of the west. Outside of this sloping surface it falls away slightly and runs about level, to receive a level pavement outside of the pyramid. The block is over 10 feet × 4½ feet, with another adjoining it, both together forming this socket bed (see section in corner of plan, pl. xxiv.). The slant face of the casing started directly from the edge of the sloping socket bed, and must thus have been covered over its face by the pavement to a depth of 13 inches. This is proved by the remaining block of pavement still on the socket floor, having a sloping line of dressing on its edge rising at the pyramid angle, in the plane of the casing. And by the analogy of the great pyramid casing and sockets, this is just what we should expect. Probably the corner casing stone sunk down below the pavement level into the socket, as otherwise there would be no object in projecting the slope below the pavement, in the manner in which we find it marked down the side of the vertical paving joint. A similar slanting draft is to be seen on a paving block in the S.W. socket. The pyramid therefore was based on a horizontal pavement, the edge-blocks of which were turned upward at a slope of 5° to 10° all round, to bed the sloping casing upon; while at the corners large blocks were sunk to form a similar sloping bed for the corner stones to rest upon, below the level of the others. The angle of the bedding of the sockets and pavement is, N.W. 7° 7′ and 6° 48′, N.N.E. 13° 27′, E.N.E. 6° 41′, S.E. 6° 44′: mean 6° 50′, omitting the N.N.E. of 13° 27′, or 2 × 6° 43′. In the upper parts of the casing the bed varies more, being at N.W. 7° 25′, N. 8° 35′, N.E. 5° 36′, E.N.E. 8° 42′, 6° 41′, E. 7° 3′, E.S.E. 6° 16′, S.S.E. 10° 56′, S. 6° 22′, S.S.W. 10° 8′, W.S.W. 9° 42′, 8° 41′, W.N.W. 6° 8′. There seems to be no regularity in these angles; the stones appear to have been simply piled on, regardless of exact parallelism of their bed-surfaces; the bedding angle varied anyhow, and the face was dressed uniform afterwards.

The stone pavement projected but little from the pyramid, perhaps 20 or 30 inches; beyond that the gravel ground was dressed down to a hard face, and a thick coat of mortar, finished with a fine white surface, was laid upon it, to form an apparent continuation of the pavement. How far this extended I did not discover. The actual points of the original construction, on which the recovery of the size of the pyramid depends, are as follows. At the N.W. the original socket with sharp edge to the bed; and pavement upon it, showing the pavement level. At the N.E. the socket is entirely destroyed; but the casing bed was found at about 100 inches from it along each side. The actual casing edge was destroyed; but by the casing face remaining some feet higher up, the angle of the casing, and the angle of the bed, the original position of the edge could be fixed. At the S.E. the corner is destroyed; and although I sunk several pits along the E. side, no trace of the stone pavement could be found. The length of the S. side and azimuth of the E. side is therefore not recovered. This corner has suffered far more than others, and the casing is destroyed for nearly half-way up the pyramid; hence it is impossible to restone the original edge, unless some block of it should be found by more extensive digging. The pits here need to be sunk some fifteen feet through a mass of loose chips and blocks; retaining walls have to be carefully built up; and so tender is the ground that it is dangerous to strike with a pick for fear of bringing it all down; each stone has to be gently pulled out by hand. On the S. side a part of the S.E. socket block remains, 34 inches below the paving level; and the edge of this, reduced for the slant upward of the casing from that level, gives the point for the original base. At the W. end of the S. side no part of the original base could be found, although several pits were sunk; here, however, the casing remained down to within 280 inches of the usual level of the pavement, but only 272 above the mortar pavement remaining near that; the difference of 8 inches being the error of levelling the pavement. This point is therefore carried down to the mortar pavement level, at the angle observed on the face, in order to give the base line. The S.W. corner is destroyed; but part of the pavement remains on the W. side, with a draft line on its vertical joint, running down from the edge in continuation of the casing slope, like that on the edge of the N.W. paving block.

The levels observed, or computed from the bed, for the base on the pavement are, N.N.E. −1·4, E.N.E. −2·6, E.S.E (mortared pavement) 0, S.S.W. (mortared pavement) + 8, N.W. + 2: and the size stated for the base is in relation to its actual pavement, and not to a theoretical true level. Other points are, socket block in S.E. pit −34, socket edge N.W. −11.

42. Proceeding now to the casing, the lower part is about 70 inches thick at a minimum, while at

the top it is but two feet thick, and the corners nine inches high. The angle of it varies a good deal. The lower half, up to the change of angle, is convex, being in nearly all parts steeper below and flatter above; the difference is as much as 1° 36′ in one place, and only about the N. and N.E. is the variation not to be noticed. In consequence of the face thus curving over up the E. side, while rising straight at the N.E., the N.E. corner of casing, where the change of angle takes place, appears to stick out unduly some 20 inches beyond the rest of the face at that level. The slope of the E. face at the S. end, where projected down to the N.E. corner, is some 60 inches outside the face there. The angles of the casing were observed by setting up the theodolite, so that its telescope was exactly in the plane of the casing; and then reading the difference of angle between the sight up the casing, and the level position of the telescope. The actual angles of the lower part of the faces all round are N.N.W. 55° 23′, near W. 54° 59′, N.N.E. 55° 2′, E.N.E. 55° 12′, E. 55° 20′, E.S.E. 54° 46′, S.S.E. 54° 40′, S.S.W. 54° 38′, W.S.W. 55° 2′, W.N.W. 55° 4′, mean 55° 1′; while the upper parts of the faces are N.N.W. 54° 59′, N.N.E. 55° 2′, E.N.E. 55° 12′, E. 53° 44′, S.S.E. 54° 1′, S.S.W. 54° 38′, W.S.W. 54° 0′, W.N.W. 54° 36′, mean 54° 31′; or, omitting those parts where the lower angle is carried up, the angle of the upper parts is 54° 12′. The upper slope of the pyramid is much less steep, but shows a similar convexity; at the N.N.W. it is 43° 2′ high up, and 43° 19′ lower; the N.N.E. is 43° 24′, the W. 43° 0′, or perhaps 42° 39′ higher up. The mean of all is 43° 5′.

43. The height of the pyramid may be approximately calculated from the angles. The place of the N.E. corner, where the change of slope occurs, was triangulated, and it is 1301·1 from the edge of the N. face, and 1288·7 from the edge of the E. face, measuring horizontally. This difference shows a still larger variation than do the angles, as observed from below; the vertical height by the N. at 55° 2′ appearing as 1860·5, and by the E. at 55° 12′, 1854·2, mean 1857 inches. Assuming the line of change in the face to be level all round, the height of the upper part will be 2277 inches: the whole, therefore, 4134 inches. A curious feature of the casing is the frequent letting in of small pieces of stone to fill up damaged parts; the acute lower edges of the stones, and sometimes the vertical joints, are cut away to a depth of a couple of inches, and a slip of stone inserted to make good accidental injuries.

44. The entrance is of special interest, as showing the evident signs of a flap door of stone, which turned on a horizontal axis. The joint holes in the sides of the passage, and the cut-away in the roof show this; but as I have fully described them in the *Pyramids and Temples*, the account need not be repeated. Within the stone door was also a wooden one, on a vertical hinge. The position of the entrance is not, as in the Gizeh pyramids, on one side of the middle, but in the mid line. The middle of the pyramid being at 3731·6 from either end, the axis of the passage is at 3731·0 from the E. side, or ·6 inch east of the mid line. The irregularities of the form, by the varying angle of the sides, will far more than cover this minute difference; and we may say that the entrance is as exactly in the middle of the pyramid as that can be defined. As the roof is 352·3 inside the line of the base horizontally, the floor will be 327·7; and as the casing angle was observed as 55° 10′ at the door, this will be 471·0 above the pavement; or 468·0, if the angle be 55° 0′, as shown by the rest of the face. The azimuth of the passage is +13½′, or that amount east of the true north. There is a very remarkable dislocation in the line of the passage; the floor and roof, in their outward course, rapidly turn upward at a steeper angle, and then suddenly drop back to the former line. The amount of change, 11·1 inches, seems far more than could be produced by any settlement of such solid masonry; and yet there is a fissure in the masonry at that point. The angle of the passage, far below the dislocation, is 26° 20′, close to the point it rises to 27° 53′, and at the mouth it is 28° 22′. The passage is choked at the bottom, so that the inner chambers are inaccessible at present.

45. The small pyramid to the south of the great one is clearly connected with it; the peribolos includes both together, the position is exactly symmetric with the large pyramid (the line joining the centres being inclined −18′ 52″), and the distance between the pyramids is apparently 100 cubits (2055·4 at N.E., 2044·2 at N.W. corner). In seems not unlikely that the lesser pyramid is the tomb of the wife or daughter of the king who was buried in the greater. The dimensions of this pyramid are—

N.	2065·8 inches.	+ 4′ 51″.
E.	2064·7 "	−21′ 10.
S.	2062·4 "	+ 3′ 2.
W.	2065·7 "	−27′ 30.
Mean	2064·6 inches.	−14′ 8.
Mean diff.	1·1 "	10′ 12.

This is certainly intended for 100 cubits of 20·646 ±005 inches. The actual points recovered of this pyramid are:—N.N.W., casing *in situ* weathered somewhat, but still fairly defined, as well as the pavement; N.N.E., casing gone, but a front edge clearly defined on the pavement; E.N.E., a line on the pavement, which is similar to one at 55 inches inside of the N.N.E. edge, and which was therefore supposed at the time to have been 55 inches inside the E. side, but which is now seen, by the accordance of the above measurements, to be really the line of the E. side itself; outside of this line the paving is destroyed; E.S.E., casing *in situ* on the pavement; S.S.E., line on pavement; S.W. corner, edge of sloping bed on pavement; verified by W.S.W., casing *in situ* over pavement; W.N.W., casing *in situ* over pavement. Thus it will be seen that in most parts a course of casing, more or less destroyed by weathering, still remains in the debris around this pyramid. The casing does not seem to have been sunk into sockets at the corners, but to have been bedded on the pavement with a slightly sloping bed. The angle of the casing on a good block at the E.S.E. is 44° 34′; and on a worse example, 45° 3′; no other stone was in sufficiently good condition to be worth measuring. The height was therefore 2034 inches. This is probably the same angle as the North Stone pyramid, which I observed as 44° 36′ on its core masonry. The entrance to this pyramid is blocked up with rubbish. The pavement around the pyramid seems to form a sort of narrow plinth to it at the N.W. corner; it is there 25 inches wide on the N., and 29 on the W., with a space of mere sand and rubbish between it and the peribolos wall.

46. The foundations of the peribolos wall around these pyramids is well constructed of roughish blocks; these probably supported a fine stone wall above. The entrance happens to be remarkably well preserved, the east side of the gateway being still 18 inches high. This shows fine work and the best quality of limestone; the outer and inner faces of the wall have a slight batter. The form is shown below the plan on Pl. xxiv. On the outer side are two recesses for the hinges of the doors, with socket holes 12 inches deep; the mark is clear on the side of gateway where the door post wore against it in turning, and this suggests that the door remained in use for some length of time before it was dismantled. The doorway is 113 inches wide, the hinge recesses 5·5 wide and 4·7 deep, the width of the gates being thus 124 inches or 6 cubits. The wall is 80·8 thick, and the breadth of the flat pilaster at the side of the gate is 68·5 inches. The axis of the gateway is 2028·6 from the outer side of the east wall. The whole of the large square is—

N. side	11755·7 inches		−4′ 34″
E. "	11753·5 "		−16′40″
S. "	11757·6 "		−38′50″?
W. "	11772·9? "		−16′8″

or 11757 if the inner face be followed.

The points found along it being the N.W. corner outside; the N.E. corner outside; the S.E. corner inside and outside; the outside at the turn south by the small pyramid; the S.E. corner by that; the S.W. corner by that could not be found, and seems entirely destroyed; the N.W. corner by that both inside and outside; the main S.W. corner is lost, and a point found on the S. side was not well fixed, so the S. side is here prolonged from the N.W. of the small pyramid in a line from the S.E. corner of the great square; this is not satisfactory however in the result, as it gives a length of the W. side very different to that of the others, unless the inner face of the wall be followed; a point was fixed also on the W. side.

The distance from the large pyramid to the outside of the peribolos is—

N.N.E.	2139·8	E.N.E.	2122·0
E.S.E.	?	S.S.E.	2159·5
S.S.W.	2155·5	W.S.W.	2142·7
W.N.W.	2170·7	N.N.W.	2153·5

The distance from the small pyramid to the outside is—

E.N.E. 300·5, E.S.E. 289·2, S.S.E. 326·8, N.N.W. 273.

The thickness of the peribolos wall is, at gateway, fine stone upper wall, 80·8; rough wall at E.S.E. 100; at S.S.E., 106; further, 104; W. of small pyramid, 88; S.S.W., 120. From the front of the gateway a road runs N.E. at an azimuth of +54° 41′; on reaching the edge of the plateau, about a hundred yards from the gate, it turns more to the east, and runs down a gentle slope into a valley towards the river. The road has been all of fine white limestone, but only a part of one edge was found *in situ*.

47. It now remains to observe what were the ideas of the architect in designing the two pyramids. Firstly, the large pyramid base of 7459· 0±2·2 inches, is 360 cubits of 20·72 ±·006, the ordinary Egyptian cubit; while the base of the lesser pyramid is 2064·6±·5, or 100 cubits of 20·646±·005. The clear space around the pyramid was also 100 cubits; it averages 2149·1±4·3 to the outer side of the foundation of the wall, and deducting 80·8, the

thickness of the upper wall as preserved at the gate, and 1·1 the distance of the gate-face inside the line of foundation from N.E. to N.W. corners, there is 2067±4 or 100 cubits of 20·67±.04. Thus it is clear that the wall is merely an added feature to the pyramid, and not made in any round numbers in itself, as its outside comes to 568 cubits. The idea of the gateway position seems to be to place it so as to look southward, just clear of the east face of the pyramid.

In height the change of slope occurs at 1857 inches from the pavement, or 90 cubits of 20·63, and the upper part is 2277 inches high, or 110 cubits of 20·70; thus the whole pyramid was 200 cubits high.

The angles of slope at the lower half of the larger pyramid is 55°1′ low down, and 54°36′ above that. This seems as if planned on a rise of 10 with a base of 7, or one cubit three palms vertical for every cubit horizontal; such a slope is 55°0′29″. If so, the base of this part will be 63 cubits for the 90 cubits vertical. The upper part being at 43°5′, seems to be planned on a rise of 14 on a base of 15, or a cubit vertical for a cubit and two digits horizontal; such a slope is 43°1′33″. The small pyramid is 44°34′, and the northern large pyramid is 44°36′; these are close to 45°, but yet seem distinct; and a slope 7 long on a base of 5, or one cubit of slope on 5 palms horizontal, gives an angle of 44°34′40″. We see thus that all these three angles are very closely explained by simple ratios; and further, that these ratios all involve the division of the cubit in the usual Egyptian way, with 7 palms.

The errors of workmanship are much greater than those of the Great or Second Pyramid of Gizeh, but rather less than that of the third pyramid. But the errors of angle are the most conspicuous; the sides being far more truly parallel than they are square to one another. This, as well as the departure from true north, shows a much lower capability for angular measurement than in the Great Pyramid of Gizeh.

The cubit values given then by different parts are:—

Large pyramid base,	360	cubits of	20·72 ± ·006.
Small pyramid base,	100	"	20·646 ± 005.
Space around pyramid,	100	"	20·67 ± ·04.
Lower height of pyramid,	90	"	20·63.
Upper height of pyramid,	110	"	20·70.

Only the first two are really accurate data, and they give a mean cuibt of 20·68±·03, with which the other three examples well agree.

The azimuth of the step pyramid of Sakkara was observed by eye on its rough core masonry, as pointing to parts of the S. pyramid of Dahshur. This resulted in showing it to be +4°14′ for E., and +4°28′ for W. side; or mean 4°21′ E. of true N.

CHAPTER VII.

THE EARLIEST COLUMN.

48. Behind one of the small pyramids at Gizeh, on the eastern side of the great pyramid, is the larger part of a fine tomb of a son of Khufu, named Khufu-kha-f. This is therefore of the beginning of the IVth dynasty, or within the first century of dateable remains in Egypt. The tomb is now heaped around with rubbish, which entirely covers its ancient doorways; and the visitor descends by jumping down into the outer chamber. This chamber has been considerably cut about in process of having an arched roof built into it, at about the time of the XXVIth dynasty. The tomb had evidently been partially despoiled before that, and was then refitted and completed for later use. The inner chamber has also had its walls continued up where broken, and a new roof put on; the new work being all plain stone, and the thin mortaring having run down over the old sculpture. On either side of a doorway in the inner chamber leading to the serdab, is a column in low relief, represented as supporting the lintel. This column is here carefully reproduced on Pl. xxv., by measurements taken from a paper squeeze. Its form is most striking when we consider that it belongs to the very first age of architecture, many centuries before the columns of Beni Hasan. Here is a well formed base, a slight taper of the column in rising from it, an astragal at the top, and a spreading capital which seems much like the prototype of the later lotus flower capitals. The whole of the members of a complete column are here, harmonious and well designed; and this is of a time when even the series of pyramids—the earliest known type of building—was but beginning its course.

49. What was the origin of this earliest column? In the same tomb, among the various articles of luxury borne before the son of Khufu, is a stand containing two wine jars; they are of a beautiful form, with long spouts, probably of metal cut off flat

on the upper side of the mouth, and with little lids on the necks. Between these jars is the drinking bowl set on a stand,—just such a stand as is often found in early tomb furniture, carved in alabaster. Here is unmistakeably the form of our column and capital. The bowl on its stand had caught the eye of the architect, and there sprung into being the first complete column that we as yet have seen. The only modification to adopt the form to architecture, was the deepening of the lower torus for a base, and the straightening of the sides of the shaft; with these slight changes the column was complete; and to this day, after the cycles of architecture in all history, we are not radically beyond this model of the dawning period: even with all the ornamentation which has been lavished on columns, and all the contortions they have been forced into, it is a question whether any one could find a reasonable complaint if this type was used in a building of to-day. It would be difficult to find fault with its form, even after all the experience of the civilised world in the ages which have passed over it.

50. That this beautiful type did not take deep root, we see by the curious but ugly capitals which support the roof of a rock tomb of the VIth dynasty, at Isbayda (Pl. xxv.). Even at Beni Hasan, in the XIIth dynasty, there is no true capital, but only a square abacus placed flat on the shaft, or else the purely vegetable type of the bundle of lotus. For a true, well-defined capital we must descend to the XVIIIth or XIXth dynasty before we find anything comparable, as an architectural form, to the column of the son of Khufu.

51. The diagrams of capitals from the Roman quarries at Gebel Abu Fodeh are of much interest as showing the methods of design. They have been published before, but inaccurately; and the present drawings are made from magnified photographs. The squares in the Hathor capital are half a cubit each, the cubit averaging 20·74 from this. The lotus capital appears to have been laid out by a cubit and digits. The arrangement of it is, however, complex; and so far as I can trace, the rules are as follows:—AB=AC . AD=AE. The curve of the everted edge at C is a quadrant. AF=FG=GE, each one-third of AD. What determines the base line H, I do not see. Bisect CH, and set off HJ=the half. From J draw a line to bisect the space AB on the line F. This forms the slope of the lower part of the capital. Join CJ, and the line cuts G line in the centre of an arc which forms the under edge of the everted lip. The purport of the circle near this I do not understand. So far, there is scarcely a break in the rules deducible from this. It should be noted that no lines whatever have been added to these drawings; only exactly such lines as could be seen in the originals, and in the photographs, are here marked. The reference letters are of course not in the original. These working drawings are lined out in red paint, on the clear walls of a subterranean quarry; and many painted graffiti of the first century A.D. show the period when they were doubtless executed.

CHAPTER VIII.

THE FAYUM ROAD.

52. While taking a walk some nine miles into the desert behind Dahshur, for the purpose of noting the level of the country, and its nature in that unknown region, I there came across a cubical block of limestone; and I observed, moreover, a track past it, and another block in the distance, also on the track. On enquiring of the Arabs on my return, they told me that all along the road to the Fayum from Sakkara, there were blocks of stone at intervals. I then on other occasions followed out this road from its beginning near Sakkara to one-third the distance to the Fayum; at that point I could not find any more way marks for a long space, and that being a walk of some 19 miles out and back, I could not get my men to go further, nor would they let me go out of their sight, considering the thievish character of the district. Some consideration must be shown for a native guard's feelings, as he and his are liable for whatever befalls you while in his jurisdiction; and in Egypt, wherever you may go, you are in somebody's charge, and that person will be seized, imprisoned, and plundered by the police if aught happens to you. I left therefore the two-thirds of the road which is beyond a walk out from Dahshur to be done at some time with regular camping out. What I have planned (see Pl. xxvi) fully shows the nature of the road and its system of mensuration. I found, moreover, another road marked in a different way, by lines of gravel swept up on either side of it, and leading to the oasis of Ammon, or Siwa, or as the Arabs said, "to Tunis." In the plan all the details of these roads are fully entered; but the hill shading is only a rough approximation, to show the character of the ground.

53. We will begin by following the Fayum road

from its north-eastern end (see Pl. xxvi.). Close by the Mastaba Far'un, on rising up the side of a valley which runs some way into the desert, faint traces of two parallel lines of flints may be seen; these run straight across the plain of table land on which the pyramids stand, and up the ridge of desert hill. At the top of the ridge, about ninety feet south of the road, is the base of a small chamber (A), about five feet square; this is probably the lower part of a sentry box, from which to watch the road both ways, as it is on the nearest high point to the road, which naturally crosses the ridge at the lowest part. Further on, the road is lost in modern tracks, but is very plainly seen before reaching the bit of stone, B. It is here marked by two parallel ridges of pebbles swept up to either side; these ridges are generally about 5 ft. wide, and 1085 inches apart from crest to crest; this width is slightly more than is usual in the adjoining Oasis road, but, like that, it is doubtless intended for 50 cubits or 1035 inches. A little way to the north of the road is a slight hollow, with much limestone and fossil wood about it; possibly foundations of a building. The parallel lines bordering the road come to an end on reaching the first of the regular way marks (C), a block of limestone with a socket cut in the top of it to receive a pillar; the form of this is shown restored in the outline of a 1000 cubit mark at the top of the plate. These base blocks or sockets are usually about 20 inches cube, and the most complete pillar yet found is 27 inches long and 9 inches square. Of socket C only two-thirds is left, and that tipped over on the side of a hollow in which it probably stood originally; many of these marks have been dug around and disturbed. Socket D is but a half. Socket E is cracked in two, but complete. At F is a different arrangement; an oblong block 30·7 × 24·5 inches, and 18 high, has in its upper face a socket 23·0 × 11·3. This seems to have been for holding a stela, a cubit wide and half a cubit thick (20·6 × 10·3) such as we shall see later on. A fragment, perhaps of this stela, is lying about 150 feet to the N.E. This form is restored at the top of the plate, as the "schœnus mark." There is a pit close to it on the N.N.E., and another about 45 feet to the E.; these pits are about 15 feet wide, and apparently the result of digging. At G is a piece of a pillar, 8 × 8·8 inches, and 27 long, but broken. At H is a socket broken into two equal parts, which are now separated 40 inches. J is a fragment of a pillar about 9 inches cube, and some scraps. At K, out of the road line, is a socket 16 inches wide, and 6 high, with a piece of a pillar beside it, 8·7 × 8·7 × 18 inches. This is probably not yet put in position, as we shall see some duplicate blocks further on. At L is a bit of a pillar 9 × 7 × 16, and some scraps of stone at M. The road here is bent to the west, to run round the base of a low rise. At N. is a socket, 18 inches square and 9 high, and a stone which may be part of pillar. At O, close to it, is another socket, part lost, but still showing it to be 23 inches square and 19 high, one of the largest of all. Probably this was not yet placed in position. Some way to the S.W. of these are two flat slabs of limestone, much weathered; and the ground is all dug over. P is a socket, broken in two, but complete. At Q is a well preserved socket-block, 21 square at base and 18 at top, 19 inches high, and the socket in it 10 inches square. This is the first stone I saw, and beside it is a human skull and a few bones; perhaps some wayfarer perished of thirst here in sight of his journey's end, or more likely he was murdered. After a socket at R, upright and complete, 13 inches high, we come to the most interesting stone, a stela; originally it stood on its base block as in the restoration of a "schœnus mark"; now it lies by its side, the stela 20·4 wide, and 35 inches high, but broken at its lower end. The base block has no socket in it. I turned the stela over in hopes of finding some inscription; but the sand blasts of the desert have ploughed off its faces in hollow scoops all over, so that no trace of letters or figuring can be seen. Possibly some other such stela, further on in this road, might have been early overthrown face downward, and so be preserved. At T and U are two sockets. Lastly at V is a part of a pillar 8 inches square and 17 long. I went about half a mile further, and looked on ahead some distance, but saw nothing but a scrap of fossil wood. Here there is certainly a great break in the line of marks, and possibly no more were placed. To the east of the rise by L, M, is a hollow with blocks of limestone about it, and pieces of red pottery; evidently a guard house, but strangely far from the road. Three faint paths leading from it in different directions may be descried.

54. It is evident, on looking at the map, that these way-marks are at regular intervals; J, L, N, P, Q are at equal distances apart, and Q, R, S, T are at half such intervals. These intervals we must determine from the plan, which is produced by triangulation to the pyramids; hence we cannot be certain of them with any great accuracy; only in one part, F to J, was a continuous measurement made with the steel tape, but that sufficed to show that no very close exactitude was to be sought for.

To tape over seven miles of road was rather too much to do with an Arab. The intervals are as follows:—

	inches.	÷	inches.
A–B	62200	3000	20·73
B–C	19800	1000	19·80
C–D	9700	500	19·40
D–E	10300	500	20·60
E–F	21300	1000	21·30
F–G	20493	1000	20·49
G–H	10498	500	21·00
H–J	10312	500	20·62
J–L	39200	2000	19·60
L–N	40900	2000	20·45
N–P	41600	2000	20·80
P–Q	41800	2000	20·90
Q–R	20600	1000	20·60
R–S	20800	1000	20·80
S–T	20000	1000	20·00
T–U	10200	500	20·40
U–V	44200	?	
(T–V	53600)	2500	21·44?
A–U	399703	19500	20·50

Here the distances are manifestly in round numbers of the usual Egyptian cubit; the exact value of the mean depends of course on the general scale of the plan, which depends in turn on the distances of the pyramids by which it was fixed. The probable error of the result is probably ± ·06 on the cubit of 20·50. The positions of the stelae at F and S are 12,000 cubits apart; and though the value of the schœnus was somewhat variable, the most accepted quantity is 12,000 cubits. Hence these stelae are called here "schœnus marks." The little guard-chamber on the crest of the ridge seems to have been the half schœnus from the starting-point; and as its position is naturally fixed, probably the start was not an exact point, but assumed as half a schœnus before this hut. The distances therefore are reckoned from the mouth of the valley near Sakkara, which is just the point where this straight line of road would have to bend eastward into the cultivated land.

55. Parallel with this in its earlier part is the Oasis road. This is marked out by two lines of flints swept up on either side, forming a band about five feet wide. The middles of these bands are 1070, 1030, 1010, and 1030 inches apart, at different portions of the road; averaging 1035, or 50 cubits of 20·7 inches. This road differs from the Fayum road in not having any distance marks. It rises from the plain of the pyramids up the ridge behind that, and there parts from the Fayum road. A slight ridge of pebbles branches from it in crossing a sloping open ground. It then dips into a valley; and by its side there occurs a dug-up hollow with pieces of limestone lying about, which looks as if it were the foundation of a small station or guard-house. On rising out of this slight valley, it makes a sharp turn at about 45° up the slope, and then nearly regains its original direction, gradually slanting across a very wide valley which runs down to Sakkara. A few small bits of limestone have been dug out of a hole about 86 feet north of the road. At the furthest point reached, the ridge of pebbles was seen stretching away in the distance as far as it could be traced.

56. A few notes may be here added on the nature of this part of the desert, which has probably not been examined before. There are no sharp valleys in it, and what slight depressions there are scarcely ever exceed 10 or 20 feet in depth. Generally speaking, the ground rises continuously from the Nile valley up to the range which extends from Kom el Kashab behind the Gizeh pyramids, along to the west of the Birket Kurun. This range, at its highest point (which is 2·7 miles N., and 16·4 miles W. of the South Dahshur pyramid), is about 970 feet above the high Nile; at the very prominent point, seen plainly from Cairo, and known as Kom el Kashab, behind the Gizeh pyramids, the range is about 760 feet over high Nile. (This point is 10·2 N., and 11·6 miles E. of the South Dahshur pyramid). These are some of the highest points of this long ridge, which forms a great watershed of this region. Its position is shown approximately on the map, p. 445, of Baedecker's *Guide;* though a corner there runs too near the Nile by about four miles near Abusir. From this ridge the descent to the Nile valley is almost continuous. There are two main valleys, or rather ledges, in the slope between this and Dahshur. One runs out at Abusir or north of that, its east side rising not more than about 10 feet; the other runs out at Sahkara, and is divided from the Nile valley by a rise of about 20 or 30 feet. The long and wide valley marked on the War Office map, and in the *Denkmäler*, as running from the south of the Dahshur pyramids some 15 or 20 miles to the N.W., is entirely wrong. That valley reaches its watershed at barely three miles W. of Dahshur, and is only a small drainage valley eroded at right angles to the edge of the Nile valley. It has nothing to do with the great structural valleys, which all run S.W. to N.E., and which, with their parallel branches, dominate the form of this region between the Fayum and Cairo.

The Fayum road, it will be seen, keeps in the

lowest ground in its direction, avoiding the slight rises; and it appears to rise steadily after passing the ridge behind the pyramids, ascending about 100 feet in six miles; it seems, at the furthest point, to continue gently rising, and probably goes up a couple of hundred feet more before dipping over into the Fayum basin.

The levels here stated are all obtained by observing the altitude of the tops of the pyramids and hills. This is but an approximation, but it is probably quite safe to within 5 or 10 feet in the nearer parts, and 30 or 40 feet on the distant points of the range. The average variation in the levels, as given separately by the tops of the two pyramids, was 4½ feet; and as the mean was taken, the data vary only 2½ feet on an average from the stated result. The regularity of the levels along the road, which are all determind solely from the pyramid tops without any intercomparison, will show how far the results may be trusted.

This Fayum road is a most interesting, and so far unique, example of an ancient Egyptian road, with its way-marks. Probably it may be assigned to the Ptolemaic period, when Arsinoe, and Bacchis, and the temple of Kasr Kerun, all show the flourishing state of the Fayum. The distances of the marks show unmistakeably what was the itinerary system of the time; the decimal cubit lengths, ended by a schoinos measure of 12,000 cubits. The road to the Oasis being over 300 miles long, could not of course be furnished with distance marks on such a system; and spaces there were probably reckoned by day's journeys. It would be of interest to ascertain how far the marking out by lines of flints is continued; and whether there are remains of sleeping stations by the road-side. It is probably not very different in age to the Fayum road, as it is marked out of just the same width, 50 cubits, as the beginning of that; and the Oases were best known in Ptolemaic and Roman times.

(*Note.*—As the pyramids are valuable survey signals, it is as well to state here their positions as approximately fixed for this survey. N. to S. pyramids, Dahshur, 6702 feet, at 171° 13′. N. to Step pyramid, Sakkara, 23,000 feet at 8° 10′. S. to Step pyramid, 29,476 feet, at 4° 22′. N. to 2nd pyramid, Gizeh, 66,173, at 158° 33′. Levels above highest Nile deposit in plain; top of S. pyramid 450 feet, top of N. pyramid 456 feet, top of Step pyramid 338 feet. These bearings are to true N., corroborated by an observation of Professor Smyth's on Dahshur from Gizeh. Magnetic N. was 5° 50′ west of true N. by mean of observations at 22 stations; average error of observation 10′, probable error of mean 2′, epoch April 1887. The French survey, in the *Description de l'Egypte*, is quite useless for questions of accuracy).

CHAPTER IX.

THE WEIGHTS OF MEMPHIS.

57. When I visited Memphis for the first time this season, I was told—before I had mentioned the word "weight" to any one—that a mound there was known as the *Kom el Mezanat*, or "mound of weights," owing to the number of ancient weights found in it. I never again saw the man who told me of this; but I could easily credit it when the supply of weights began to flow in to me at Dahshur, from the various Arab dealers. In the six weeks that I lived there over 500 weights were brought, ranging from a few grains up to twenty-five lbs. In the interests of metrology it would be most important to excavate scientifically in the region they come from; but all such work is prohibited at Memphis in the supposed interests of the Bulak Museum; and hence the history is destroyed by the Arabs without any remedy. Such is the case all over the country to a very sad extent. The destruction of historic material will go on; and if no thorough system of record is at work, the history perishes as it has done in all past destructions.

This series of weights gives, for the first time, an outline of the metrology of Memphis; which, though unhappily not dated, is comparable with the large series which I have worked out from Naukratis and Defenneh. The general arrangement of the material here is on the same principles that I laid down in the treatment of the Naukratis weights in 1885. As there were but few bronze weights from Memphis, and those corroded, I have not included them in this statement. The entire absence of leaden weights shows that this series cannot extend much into the Greek period, when lead was a usual material; and the only weight showing its own age is one belonging to "Atha, son of Horuta," probably of the XXVIth dynasty. At first sight, I doubted whether many of the stones I saw were ancient weights, owing to their not following the standard types of forms, but being only rounded; however, on examining them, and considering their forms, it did not seem possible to assign them to any other use. We have here pieces of very hard stones, mostly quartzose, which have been carefully smoothed,

and polished all over; such an amount of labour as is shown by these would not be thrown away for a mere fancy or freak, in preparing hundreds of such stones.* Moreover, these do not show, in most cases, any signs of having been used for work, either polishing, grinding, or hammering. As a matter of later use, all kinds of weights, highly wrought or merely smoothed, were often employed for hammers, as is only to be expected; much as modern weights serve as both hammers and anvils in modern kitchens. But so far as the original purpose of these stones can be inferred, they were not applied to any hard work. These rounded or cuboid forms are just about as numerous as the fully shaped weights of the regular types; and hence they occupy about half of the present collection. When, apart from the consideration of their forms, we study their weights, we see good reason independently to accept them as ancient weights. If they were a mere chance series of stones, such as would be used for hammers, we ought to find that they do not all conform to the regular grouping of the known weights. And on drawing out diagrams of the distribution of the weights (as in Pl. xxvii.), we ought to find that the curves are all blurred together and confused, if we have included a large series of chance stones. On the contrary—although there is some difference in the forms of the curves from those of other collections—we see very clear and clean gaps between the various standards, *e.g.* at 84 to 85 grains, 87 to 94 grains, 118 to 122 grains; and this certainly shows that but a very small proportion of casual or accidental stones could possibly have been included in the present collection.

To any one accustomed to our modern weights of cast metal, bearing inscriptions, it might seem hard to believe that mere pieces of polished stone were formed for weighing with. But if we look round an Egyptian market of the present day, we see how greatly this skill of the modern people has fallen off from that of their predecessors. In place of fine polished pieces of hard stones, the weights now-a-days are mere lumps of stone without any attempt at form or regularity, sometimes brickbats knocked away to the required amount. Often I have hunted over a jeweller's box of weights in search of ancient bronze weights which are to be found in use; not only are there Arab dirhem weights, but also French grammes, ancient Egyptian weights, bits of stone, old coins ground down, and scraps of china saucers and plates chipped round. It is such a style of weights that we must start from in considering ancient Egyptian weights, and not from a modern system of the west, with government stamps enforced by Act of Parliament.

* I need hardly say that I am not referring to the multitude of regular hammer stones, which are so common in every Egyptian site; such stones do not show the long and toilsome work of polishing to which I refer above.

58. In the following tables of the weights some slight difference has been made from the tables published in *Naukratis* and *Tanis II.* The reference numbers here are begun at 4001 in order to maintain a fixed number for every weight that I publish in this complete manner. The weights of the Egypt Exploration Fund reach 1292, with about a thousand more in metal still to be examined; these take that set up to 2300. Leaving 1700 more for future additions, this set begins at 4000 and runs to 4500; and the weights in the Greek department of the British Museum I have numbered in my report on them from 6001 to 6515. Thus, for some time to come, the various series can expand without over-running four figures; the object in view being to maintain one reference number to each fully published weight, to distinguish and designate it for all future notice. The statement of material in the second column of the tables does not profess strict geologic exactitude, but is sufficient to give a fair idea of the substances; the black basalt indeed is more and more infiltrated by a network of minute quartz, until it merges into a microscopic syenite, so far as eye inspection goes, insomuch that it seems impossible to draw a clear line between the kinds. No doubt, in field work, the masses could easily be classified, but in small specimens taken out of veins or patches, a certain nomenclature is not to be had without microscopic examination. The numbers of the types of forms in the third column refer to the types which have been already twice published in *Naukratis*, and in *Tanis II;* such fresh forms as required illustration (153 to 173) are here given in Pl. xxviii. The fourth column contains the present weight in British grains, when that differs from the ancient weight by reason of any perceptible wear or chipping: where no difference exists the entry is only made in the column of ancient weight. The fifth column contains the amount of change of weight when such change exceeds 2 per cent., such being the limit which I assigned before for excluding weights from consideration in results, as a greater loss leaves too much doubt as to the ancient weight. Thus where there is no alteration, the weight is reported in the "ancient" column; where there is under 2 per cent. change as estimated, its present amount is put in the "present" column; and where there is over 2 per cent. change, attention is called to it by the

difference being entered in the "ch." column. The multiple of the unit follows, and lastly the value of the unit as shown by the example in question.

59. EGYPTIAN KAT STANDARD (190).

No.	Material.	Form.	Present.	Ch.	Ancient.	×	Unit.
4001	Greenstone	33			13·6	1/10	136·0
4002	Hæmatite, br.	21–38			138·3	1	138·3
4003	Basalt, bk.	165			27710·	200	138·5
4004	Basalt, br.	26–33	6805·	—	6930·	50	138·6
4005	Syenite, gr.	18–165			6942·	50	138·8
4006	Basalt, bk.	5			6943·	50	138·9
4007	Basalt, br.	12	1383·4	—	1390·	10	139·0
4008	Syenite, bk.	38–39			2779·5	20	139·0
4009	Basalt, bk.	36–37	6921·	—	6950	50	139·0
4010	Granite, br.	38	6838	—	6950	50	139·0
4011	Basalt, br.	33	695·3	—	695·6	5	139·1
4012	Basalt, bk.	54			3478·7	25	139·1
4013	Syenite, bk.	5–12	3474·8	—	3479·	25	139·2
4014	Felsite? br.	9			6966	50	139·3
4015	Diorite, gr.	54			2789·2	20	139·5
4016	Basalt, br.	165			27910	200	139·5
4017	Syenite, gr.	31–33			139·6	1	139·6
4018	Syenite, gr.	54			3491·9	25	139·7
4019	Felsite, br.	38			2803·5	20	140·2
4020	Syenite, gr.	38 fine			14030·	100	140·3
4021	Jasper, bk.	6–12			140·5	1	140·5
4022	Basalt, br.	38, 164			1405·9	10	140·6
4023	Syenite, bk.	25–29	1406·5	—	1406·6	10	140·7
4024	Basalt, br.	165	2812·7	—	2814·	20	140·7
4025	Sandstone, br.	12			28140·	200	140·7
4026	Basalt, bk.	38–43			2817·2	20	140·9
4027	Limestone, br.	26			141·2	1	141·2
4028	Hæmatite bk.	48–50			141·3	1	141·3
4029	Basalt, bk.	24			141·3	1	141·3
4030	Basalt, bk.	11			3533·2	25	141·3
4031	Diorite, gn.	154			70·7	1/2	141·4
4032	Basalt, br.	42–43			2829·1	20	141·5
4033	Syenite, gr.	2			2829·5	20	141·5
4034	Granite, br.	33			14150·	100	141·5
4035	Hæmatite, br.	38			70·8	1/2	141·6
4036	Basalt, br.	38			283·5	2	141·7
4037	Basalt, br.	19–27	708·3	—	708·4	5	141·7
4038	Basalt, bk.	11			3546·4	25	141·8
4039	Granite, br.	25–165	28060·	—	28360·	200	141·8
4040	Hæmatite, br.	49			283·9	2	141·9
4041	Basalt, br.	27			283·8	2	141·9
4042	Syenite, gr.	19–27			2837·5	20	141·9
4043	Basalt, bk.	11–54			3548·2	25	141·9
4044	Basalt, bk.	7–54			3548·1	25	141·9
4045	Sandstone, br.	23	56600	—	56750	400	141·9
4046	Basalt, bk.	155			142·1	1	142·1
4047	Granite, gr.	44–45	7068	—	7110	50	142·2
4048	Basalt, br.	33			284·6	2	142·3
4049	Basalt, br.	27–33			712·1	5	142·4
4050	Syenite, gr.	54			2852·1	20	142·6
4051	Syenite, bk.	11–54			3567·6	25	142·7
4052	Basalt, br.	22 tall			71·4	1/2	142·8
4053	Basalt, br.	33			71·4	1/2	142·8
4054	Basalt, bk.	19–82			2855·4	20	142·8
4055	Basalt, bk.	2			3571·5	25	142·8
4056	Basalt, bk.	33			2858·7	20	142·9
4057	Basalt, br.	33	28190	—	28590	200	142·9
4058	Basalt, bk.	38–40	71400	—	71460	500	142·9
4059	Basalt, br.	27			143·0	1	143·0
4060	Basalt, bk.	38–43			2861·	20	143·0
4061	Basalt, br.	26–33	1428·1	—	1432·	10	143·2
4062	Basalt, br.	38			716·8	5	143·3
4063	Basalt, br.	165			1433·4	10	143·3
4064	Granite, gr.	165			2865·9	20	143·3
4065	Limestone, bk.	14–35			47·9	1/3	143·7
4066	Basalt, bk.	31			143·7	1	143·7
4067	Basalt, bk.	39–42			3596·1	25	143·8
4068	Basalt, br.	33–36			287·8	2	143·9
4069	Syenite bk.	18–23			1438·8	10	143·9
4070	Basalt, br.	82	28740·	—	28780	200	143·9
4071	Limestone, bk., w.	157	135·3	9.	144·0	1	144·0
4072	Syenite, gr.	165	7164·	—	7200·	50	144.0
4073	Granite, gr.	40–165			28830	200	144·1
4074	Basalt, bk.	27			144·2	1	144·2
4075	Basalt, br.	25–33			721·2	5	144·2
4076	Basalt, br.	33			288·7	2	144·3
4077	Basalt, br.	32–40	1441·4	—	1444·	10	144·4
4078	Basalt, bk.	11–54			2889·3	20	144·5
4079	Granite, br.	26–33			72320	500	144·6
4080	Basalt, br.	32–33			289·4	2	144·7
4081	Basalt, br.	37–156	1446·6	—	1447·	10	144·7
4082	Quartzite, br.	19–33			14470·	100	144·7
4083	Basalt, bk.	27			144·8	1	144·8
4084	Basalt. br.	37–38			1448·2	10	144·8
4085	Basalt, bk.	8–54			3621·7	25	144·8
4086	Basalt, gr.	11			7247	50	144·9
4087	Basalt, br.	33–37	28900	—	28980	200	144·9
4088	Basalt, br.	38			2900·7	20	145·0
4089	Basalt, br.	33			725·6	5	145·1
4090	Basalt, bk.	101–165	72450·	—	72570	500	145·1
4091	Basalt, bk.	38–40			2905·0	20	145·2
4092	Syenite, gr.	82	7266	—	7267	50	145·3
4093	Basalt, br.	33–36			726·9	5	145·4
4094	Syenite, bk.	32–33	1453·9	—	1454·1	10	145·4
4095	Syenite, gn.	33			1454 1	10	145·4
4096	Basalt, bk.	10–54			3637·4	25	145·4
4097	Felsite, gr.	8–54			3640·8	25	145·6
4098	Basalt, br.	43–44			291·7	2	145·8
4099	Granite, gr.	19	29150	—	29170	200	145·8
4100	Basalt, br.	33	144·6	—	145·9	1	145·9
4101	Basalt, br.	165	1452·7		1459·	10	145·9
4102	Basalt, br.	33			292·0	2	146·0
4103	Serpentine, gn.	33			730·2	5	146·0
4104	Basalt, br.	23	2896·0	—	2920·	20	146·0
4105	Syenite, gr.	3			3652·2	25	146·1
4106	Basalt, bk.	20–33	2918·1	—	2924	20	146·2
4107	Basalt, bk.	27	146·1	—	146·3	1	146·3
4108	Syenite, gr.	38–44			292·7	2	146·3
4109	Syenite, bk.	54			2928·6	20	146·4
4110	Syenite, bk.	54			3658·8	25	146·4
4111	Basalt, br.	26–33			732·7	5	146·5
4112	Basalt, bk.	26	2930·3	—	2931	20	146·5
4113	Basalt, br.	33			293·3	2	146·6
4114	Basalt, bk.	38			3665·3	25	146·6
4115	Basalt, bk.	65			3668·8	25	146·8
4116	Basalt, br.	33	293·5	—	293·8	2	146·9
4117	Basalt, bk.	12			2937·8	20	146·9
4118	Basalt, br.	27–33			294·0	2	147·0
4119	Basalt, br.	33	1467·2	—	1469·6	10	147·0
4120	Syenite, bk.	33	2942·6	—	2943·6	20	147·2
4121	Basalt, gr.	33–165	7161	200	7360	50	147·2
4122	Basalt, br.	33	1471·7	—	1472·9	10	147·3
4123	Basalt, bk.	11			7370	50	147·4
4124	Basalt, br.	27–33			737·5	5	147·5
4125	Basalt, bk.	3			7374·	50	147·5
4126	Limestone, w.	37–38	1474·2	—	1474·6	10	147·5
4127	Syenite, gr.	32			1476·0	10	147·6
4128	Basalt, br.	31–33			1477·1	10	147·7
4129	Syenite, bk.	54			3692·1	25	147·7
4130	Basalt, br.	18–27			295·6	2	147·8
4131	Syenite, bk.	12–14			2955·5	20	147·8
4132	Basalt, br.	33			147·9	1	147·9
4133	Basalt, br.	27–33			295·9	2	147·9
4134	Basalt, br.	11			739·9	5	148·0
4135	Basalt, br.	33			296·3	2	148·1
4136	Basalt, br.	27–33			296·4	2	148·2
4137	Granite, gr.	2–38			148·4	1	148·4
4138	Basalt, br.	33			296·9	2	148·4
4139	Basalt, br.	58			296·8	2	148·4
4140	Syenite, gr.	42–44	29640·	—	29690	200	148·4
4141	Basalt, br.	33			49·5	1/3	148·5
4142	Basalt, bk.	26	1486·1	—	1487·5	10	148·7
4143	Hæmatite, bk.	5			12·4	1/12	148·8
4144	Basalt, bk.	54			3720·6	25	148·8
4145	Basalt, br.	32			29800	200	149·0
4146	Hæmatite, br.	2–28			49·7	1/3	149·1
4147	Basalt, br.	33			298·2	2	149·1
4148	Basalt, br.	33			745·9	5	149·2
4149	Basalt, br.	33			49·8	1/3	149·4
4150	Basalt, br.	27–35			149·4	1	149·4
4151	Basalt, br.	33			298·9	2	149·4
4152	Syenite, gr.	32–33			298·8	2	149·4
4153	Granite, gr.	38	29680	—	29930	200	149·6

No.	Material.	Form.	Present.	Ch.	Ancient.	×	Unit.
4154	Basalt, bk.	43			299·4	2	149·7
4155	Basalt, br.	33			149·9	1	149·9
4156	Basalt, bk.	40			2998·5	20	149·9
4157	Granite, bk.	40	738·6	—	750·	5	150·0
4158	Syenite gr.	8–42			15000	100	150·0
4159	Basalt, bk.	171	14950·	—	15010	100	150·1
4160	Basalt, bk.	165	150, 080	—	150, 130	1000	150·1
4161	Basalt, br.	7			50·1	⅓	150·3
4162	Basalt, bk.	55	3004·6	—	3006	20	150·3
4163	Syenite, gr.	11–16			3756·8	25	150·3
4164	Basalt, bk.	33			300·8	2	150·4
4165	Serpentine, gr.	38	1501·0	—	1504·	10	150·4
4166	Alabaster	33			150·5	1	150·5
4167	Diorite, bk.	9			3776·2	25	151·1
4168	Basalt, br.	40			75·6	½	151·2
4169	Sandstone, br.	42–54	3024·3	—	3026	20	151·3
4170	Basalt, bk.	11–54	3783·6	—	3788	25	151·3
4171	Basalt, br.	33			151·4	1	151.4
4172	Basalt, br.	33	7540	—	7570	50	151.4
4173	Syenite, bk.	2–8			3031·5	20	151.6
4174	Syenite, bk.	12–42			759·3	5	151.9
4175	Basalt, bk.	23–165			3808·2	25	152·3
4176	Quartz, gn.	172	15210	—	15250	100	152·5
4177	Granite, br.	11–71			30500	200	152·5
4178	Basalt, bk.	32			152·8	1	152·8
4179	Syenite, gr.	10–45			3056·3	20	152·8
4180	Basalt, bk.	7–54			3820·1	25	152·8
4181	Basalt, bk.	33			76·5	½	153·0
4182	Basalt, br.	33			153·0	1	153·0
4183	Diorite, gr.	32–32			153·0	1	153·0
4184	Flint, br.	12–62	761·2	—	765·	5	153·0
4185	Porphyry, br.	4	3051·1	—	3061	20	153·0
4186	Syenite, bk.	32			766·2	5	153·2
4187	Sandstone, y.	19–38			30640	200	153·2
4188	Syenite, bk.	54			3836·2	25	153·4
4189	Basalt, bk.	7–16			3839·0	25	153·6
4190	Glass, br., bk.	44	153·9	—	154·1	1	154·1

Memphite Bi-uten (21).

4191	Basalt, bk.	10–54			5898	2	2949
4192	Syenite, gr.	62 fine	5918	—	5920	2	2960
4193	Basalt, bk.	11–160			17770	6	2962
4194	Basalt, br.	10–14	5926	—	5937	2	2968
4195	Syenite, gr.	12–42	17770	—	17810	6	2968
4196	Syenite, gr.	11–14			17940	6	2980
4197	Porphyry, bk.	9–54			5968	2	2984
4198	Basalt, bk.	12–14			8960	3	2987
4199	Basalt, bk.	10–54			5979	2	2989
4200	Syenite, bk.	8–10			5995	2	2997
4201	Basalt, gr.	11–54	8987	—	8997	3	2999
4202	Basalt, br.	8–33			6019	2	3009
4203	Basalt, bk.	2–54			6021	2	3010
4204	Syenite, bk.	81–82			6069	2	3034
4205	Syenite, bk.	62–171	6089	—	6092	2	3046
4206	Basalt, bk.	7–11			6093	2	3046
4207	Basalt, bk.	26	11700	500	12200	4	3050
4208	Granite, gr.	3–11			6143	2	3071
4209	Syenite, bk.	63–171			6154	2	3077
4210	Limestone, w.	46	60760	—	61560	20	3078
4211	Basalt, bk.	11–14			6171	2	3085

Assyrian Shekel Standard (24).

4212	Basalt, br,	43–156			244·0	2	122·0
4213	Alabaster	58	30·3	—	30·5	½	122·0
4214	Syenite, gr.	160			490·9	4	122·7
4215	Basalt, br.	24	122·5	—	122·8	1	122·8
4216	Basalt, br.	153			30·8	¼	123·2
4217	Limestone, bk.	14			618·6	5	123·7
4218	Syenite, bk.	39–44	1237·1	—	1237·5	10	123·7
4219	Sandstone, br.	20–33	2485·5	—	2490	20	124·5
4220	Basalt, br.	54			1256·4	10	125·6
4221	Basalt, br.	44–46			1259·0	10	125·9
4222	Basalt, bk.	171	12410	—	12600	100	126·0
4223	Quartz, bk,	54			2537·6	20	126·9
4224	Basalt, bk.	165			2537·3	20	126·9
4225	Syenite, bk.	4–54			2550·3	20	127·5
4226	Basalt, br.	165	2561·0	—	2563	20	128·1
4227	Basalt, br.	38–156			644·6	5	128·9
4228	Serpentine, b.w.	31–33			43·0	⅛	129·0
4229	Basalt, bk.	11–27			2580·0	20	129·0
4230	Basalt, bk.	165	12830	—	12930	100	129·3
4231	Serpentine, bk.	158	258·3	—	259·5	2	129·7
4232	Gneiss, gr.	58			648·8	5	129·8
4233	Basalt, bk.	58 thin	2600·3	—	2610	20	130·5
4234	Basalt, br.	23	13040	—	13070	100	130·7
4235	Basalt, bk.	81–156	1307·1	—	1308·0	10	130·8

Attic Drachma Standard (94).

4236	Syenite, gr.	20–165			6504	100	65·0
4237	Basalt, br.	13–71	6501	—	6505	100	65·0
4238	Basalt, bk.	7–54			6509	100	65·1
4239	Basalt, br.	165	6461	—	6511	100	65·1
4240	Serpentine, br., w.	20			261·4	4	65·3
4241	Basalt, bk.	165	6521	—	6533	100	65·3
4242	Granite, gr.	165	26150	250	26170	400	65·4
4243	Limestone, y.	33	12870	—	13120	200	65·6
4244	Basalt, br.	40–165	6560	—	6567	100	65·7
4245	Syenite, gr.	167			6599	100	66·0
4246	Basalt, br.	29–33	1320·0	—	1322·	20	66·1
4247	Basalt, br.	38–40	6608	—	6613	100	66·1
4248	Syenite, gr.	23, 173	33010	—	33040	500	66·1
4249	Basalt, bk.	36			132·4	2	66·2
4250	Syenite, gr.	31–33	33050	—	33080	500	66·2
4251	Granite, br.	20–33			6641	100	66·4
4252	Basalt, bk.	2			26560	400	66·4
4253	Basalt, bk.	24			133·1	2	66·5
4254	Basalt, br.	63	664·2	—	664·8	10	66·5
4255	Basalt, br.	38	2636·1	—	2660	40	66·5
4256	Syenite, gr.	54			6646	100	66·5
4257	Syenite, gr.	8–11			6667	100	66·7
4258	Syenite, bk.	38	6656	—	6670	100	66·7
4259	Limestone, lt. br.	156			133·7	2	66·8
4260	Basalt, bk.	49	1333·7	—	1336·	20	66·8
4261	Basalt, bk.	11			6682	100	66·8
4262	Basalt, bk.	25–36			133·9	2	66·9
4263	Basalt, bk.	165			13380	200	66·9
4264	Limestone ? gr.	14–35			67·0	1	67·0
4265	Basalt, br.	43			1341·0	20	67·0
4266	Basalt, gr.	7			3351·4	50	67·0
4267	Serpentine, gr.	36	1315·0	28	1343·	20	67·1
4268	Basalt, bk.	165	2682·0	—	2688	40	67·2
4269	Granite, gr.	26	6711	—	6716	100	67·2
4270	Basalt, br.	24–27			269·4	4	67·3
4271	Basalt, br.	27–33	672·8	—	673·2	10	67·3
4272	Basalt, br.	23–33			1346·2	20	67·3
4273	Basalt, br.	115	3339·5	—	3365	50	67·3
4274	Serpentine, gn.	33	62·5	5?	67·5	1	67·5
4275	Basalt, br.	38–43			675·3	10	67·5
4276	Basalt, bk.	23			2701·4	40	67·5
4277	Basalt, bk.	54			3374·7	50	67·5
4278	Basalt, br.	23–27	675·7	—	675·9	10	67·6
4279	Syenite, bk.	11–54			3379·1	50	67·6
4280	Syenite, bk.	54			3382·5	50	67·6
2281	Limestone, bk.	12			135·4	2	67·7
4282	Basalt, hr.	27–33		?	270 9	4	67·7
4283	Basalt, br.	38–156			676·8	10	67·7
4284	Syenite	37			676·9	10	67·7
4285	Basalt, br.	12–26	2669·7	—	2710	40	67·7
4286	Syenite, bk.	54	3386·7	—	3388	50	67·7
4287	Syenite, bk.	11			3383·8	50	67·7
4288	Basalt, br.	26–27	1358·2	—	1359	20	67·9
4289	Granite, pink	165 tall			13580	200	67·9
4290	Sandstone, br.	23–3	27070	—	27170	400	67·9
4291	Hæmatite, br.	109			680·7	10	68·1
4292	Hæmatite, br.	50–52			68·2	1	68·2
4293	Limestone, bk.	40			136·4	2	68·2
4294	Basalt, br.	27	1363·3	—	1363·5	20	68·2
4295	Syenite, gn.	38			34090	500	68·2
4296	Basalt, bk.	44			136·7	2	68·3
4297	Basalt, bk.	27			136·7	2	68·3
4298	Basalt, br.	33			136·6	2	68·3
4299	Basalt, amyg.	26–33			684·1	10	68·4
4300	Basalt, bk.	10			3417·9	50	68·4
4301	Basalt, br.	11–156	6741	—	6840	100	68·4
4302	Syenite, gr.	18			137·1	2	68·5
4303	Syenite, gr.	12–58			2739·5	40	68·5
4304	Granite, gr.	20–33		?	13700	200	68·5

No.	Material.	Form.	Present.	Ch.	Ancient.	×	Unit.
4305	Basalt, br.	32–40			274·5	4	68·6
4306	Basalt, bk.	38			274·6	4	68·6
4307	Basalt, bk.	40	685·8	—	685·9	10	68·6
4308	Sandstone, br.	33–40	1367·9	—	1373·	20	68·6
4309	Basalt, br.	27–40			2743·5	40	68·6
4310	Silicified wood.	10–54			2745·2	40	68·6
4311	Basalt, br.	33–40			68·7	1	68·7
4312	Basalt? gn.	12–14		?	137·4	2	68·7
4313	Basalt, bk.	11–38			13740	200	68·7
4314	Basalt, bk.	40			137·6	2	68·8
4315	Serpentine, bk., w.	32	1374·5	—	1375·5	20	68·8
4316	Basalt, br.	55–65			2752·5	40	68·8
4317	Basalt, bk.	33–37	132,560	5000	137,600	2000	68·8
4318	Syenite, bk.	12–27			137·9	2	68·9
4319	Syenite, bk.	54			3446·0	50	68·9
4320	Limestone, gr.	32–33			276·0	4	69·0
4321	Basalt, bk.	64–80	2702·8	60	2760	40	69·0
4322	Syenite, bk.	12–20			276·5	4	69·1
4323	Basalt, br.	37–40	1376·6	—	1382·	20	69·1
4324	Basalt, bk.	11–14			1381·3	20	69·1
4325	Basalt, bk.	39 low			2762·9	40	69·1
4326	Quartz, bk.	4–54			2763·7	40	69·1
4327	Syenite, bk.	58			1383·2	20	69·2
4328	Syenite, gr.	37–165			2766·5	40	69·2
4329	Basalt, gn.	36			138·6	2	69·3
4330	Basalt, br.	165			2776·6	40	69·4

Phœnician Shekel Standard (62).

4331	Limestone, bk.	62			52·1	¼	208·4
4332	Basalt, bk.	7–11			10545	50	210·9
4333	Basalt, bk.	54–117			2114·8	10	211·5
4334	Basalt, br.	165	4929·2	370	5300	25	212·0
4335	Syenite, gr.	15			5325	25	213·0
4336	Basalt, bk.	55	1616·5	90	1710	8	213·7
4337	Basalt, bk.	2–54			4276·5	20	213·8
4338	Basalt, bk.	10–11			5375	25	215·0
4339	Syenite, bk.	3–168			5391	25	215·6
4340	Basalt, br.	14 tall			2157·5	10	215·7
4341	Syenite, gr.	10–54			4331·9	20	216·6
4342	Syenite, gr.	11–54	4336·8	—	4339·	20	216·9
4343	Syenite, gr.	8–54			544·3	25	217·6
4344	Serpentine, bk.	22 tall			54·5	¼	218·0
4345	Basalt, br.	42–44			5459	25	218·4
4346	Syenite, bk.	54			4367·8	20	218·4
4347	Basalt, br.	14			4388·5	20	219·4
4348	Basalt, br.	7–35			4398·1	20	219·9
4349	Basalt, bk.	9–10			2202·3	10	220·2
4350	Basalt, br.	33	1757·9	—	1763	8	220·4
4351	Basalt, bk.	8			5513	25	220·5
4352	Syenite, gr.	12			22080	100	220·8
4353	Basalt, bk.	11–14			5543	25	221·7
4354	Felsite, gr.	54			4434·1	20	221·7
4355	Basalt, bk.	55			2221·6	10	222·2
4356	Diorite, br., w.	54			4444·3	20	222·2
4357	Granite, gr.	165 tall			11130	50	222·6
4358	Syenite, bk.	11			5567	25	222·7
4359	Basalt, bk.	11			5585	25	223·4
4360	Syenite, bk.	10			5588	25	223·5
4361	Syenite, gr.	55–58			1788·5	8	223·6
4362	Hæmatite, bk.	50	111·9	—	112·0	½	224·0
4363	Syenite, bk.	2–54			4483·8	20	224·2
4364	Syenite? bk.	11	2229·9	—	2244	10	224·4
4365	Syenite, bk.	58	4500·0	—	4506	20	225·3
4366	Basalt, bk.	11–54			4520·9	20	226·0
4367	Syenite, bk.	11			5655	25	226·2
4368	Basalt, bk.	10–54	4526·9	—	4539	20	226·9
4369	Basalt, bk	8–10			5686	25	227·4
4370	Basalt, bk.	10			4550·0	20	227·5
4371	Basalt, bk.	168			4571·8	20	228·6
4372	Syenite, bk.	10–11			5716	25	228·6
4373	Basalt, bk.	2			11430	50	228·6
4374	Syenite, bk.	2			4573·5	20	228·7
4375	Basalt, br.	22–165	5727	—	5767	25	229·1
4376	Quartz, gr.	2–56			2298·4	10	229·8
4377	Basalt, br.	165	5743	—	5752	25	230·1
4378	Hæmatite, bk.	50			230·4	1	230·4
4379	Basalt, bk.	54			4611·5	20	230·6
4380	Basalt, bk.	38			2313·0	10	231·3
4381	Syenite, bk., w.	10–167			4639·2	20	232·0
4382	Basalt, br.	54–64	4620·0	—	4645·	20	232·2
4383	Sandstone, br.	27	174,320	—	174,420	750	232·6
4384	Syenite, gr.	58 thin	4635·6	—	4660	20	233·0
4385	Granite, gr.	12–13	4633·3	—	4660	20	233·0
4386	Syenite, bk.	16	4656·3	—	4661	20	233·0
4387	Diorite, gr.	65	1870·1	—	1874	8	234·2
4388	Syenite, bk.	8			4685·3	20	234·3
4389	Granite, gr.	7			4689·5	20	234·5
4390	Basalt, bk.	10–167			5862	25	234·5
4391	Syenite, bk.	10–54			4696·3	20	234·8
4392	Basalt, bk.	54			4696·1	20	234·8

Æginetan Drachma Standard (35).

4393	Hæmatite, bk.	49–50			188·0	2	94.0
4394	Basalt, bk.	101			4761·4	50	95·2
4395	Syenite, bk.	165			4788·1	50	95·7
4396	Syenite, bk.	54			2404·9	25	96·2
4397	Basalt, bk.	54			2413·4	25	96·5
4398	Basalt, br.	14–165			4827·2	50	96·5
4399	Syenite, gr.	54			4829·4	50	96·6
4400	Basalt, bk.	55	1913·0	—	1927	20	96·8
4401	Limestone, gr.	27–33			582·3	6	97·0
4402	Serpentine, bk.	11–58	2422·3	—	2426·	25	97·0
4403	Syenite, gr.	11	4856·8	—	4867·	50	97·4
4404	Syenite, gr.	12			4872·9	50	97·4
4405	Basalt, bk.	3			4889·8	50	97·8
4406	Syenite, bk.	12			4901·6	50	98·0
4407	Basalt, br.	161	1177·2	—	1178·4	12	98·2
4408	Agate, red	159	?		394·6	4	98·6
4409	Basalt, br.	ball			1183·2	12	98·6
4410	Basalt, bk.	54			2469·3	25	98·8
4411	Basalt, bk.	11			4940·6	50	98·8
4412	Syenite, bk.	2			4947·2	50	98·9
4413	Basalt, br.	18–23			1187·5	12	99·0
4414	Basalt, bk.	4			4961·8	50	99·2
4415	Basalt, bk.	10–54			4964·0	50	99·3
4416	Granite, gr.	19–33			4975·0	50	99·5
4417	Alabaster	15			33·3	⅓	99·9
4418	Syenite, gr.	11–54			4997·3	50	99·9
4419	Basalt, bk.	58			2502·5	25	100·1
4420	Alabaster	170	3822·6	—	3835	19	100·9
4421	Basalt, br.	19–27	?		405·7	4	101·4
4422	Basalt, bk.	7–54			5075	50	101·5
4423	Basalt, bk.	12			5077	50	101·5
4424	Basalt, bk.	9			5085	50	101·7
4425	Basalt, bk.	168			5101	50	102·0
4426	Syenite, gr.	11–12			5123	50	102·4
4427	Syenite, gr,	7–11			10322	100	103·2
4428	Basalt, bk.	2			5186	50	103·7

Eighty Grain Standard (70).

4429	Alabaster	15–23			3060	40	76·5
4430	Basalt, bk.	38			3080·1	40	77·0
4431	Basalt, gr.	11			3859·8	50	77·2
4432	Syenite, gr.	54–86			3864·6	50	77·3
4433	Basalt, bk.	12–14			3096·7	40	77·4
4434	Basalt, bk.	14–54			3098·7	40	77·5
4435	Basalt, bk.	54			3873·6	50	77·5
4436	Sandstone, br.	54			3876·5	50	77·9
4437	Basalt, br.	33			779·4	10	77·9
4438	Syenite, gr.	11–12			3894·6	50	77·9
4439	Syenite, gr.	7–54			3903·6	50	78·1
4440	Basalt, bk.	16	7789	—	7810	100	78·1
4441	Syenite, gr.	54			3129·2	40	78·2
4442	Basalt, bk.	163			1566·1	20	78·3
4443	Syenite, bk.	26–33	6267	—	6287	80	78·3
4444	Syenite, gr.	8–12			6280	80	78·5
4445	Syenite, gr.	10			3146·4	40	78·7
4446	Basalt, br.	33	314.9	—	315·2	4	78·8
4447	Basalt, br.	33	1581·0	—	1581·6	20	79·1
4448	Syenite, gr.	3–54			3169·5	40	79·2
4449	Porphyry, bk.	9			3961·2	50	79·2
4450	Basalt, br.	23–165	6230	—	6340	80	79·2
4451	Syenite, bk.	42–54			3171·4	40	79·3
4452	Syenite, gr.	54			3970·8	50	79·4
4453	Diorite, w.	38–54			3178·7	40	79·5
4454	Basalt, br.	38			318·6	4	79·6
4455	Syenite, gr.	38	7906	—	7960	100	79·6

No.	Material.	Form.	Present.	Ch.	Ancient.	×	Unit.
4456	Basalt, bk.	54			3186·8	40	79·7
4457	Syenite, bk.	10–54			3979·5	50	79·9
4458	Granite, gr.	165	6375	—	6391	80	79·9
4459	Alabaster	15			1597·5	20	79·9
4460	Basalt, bk.	174			2003·6	25	80·1
4461	Basalt, bk.	10–54			4015·5	50	80·3
4462	Limestone, bk.	31 oval			80·4	1	80·4
4463	Hæmatite, bk.	49–50			160·9	2	80·4
4464	Basalt, bk.	10–54			6433	80	80·4
4465	Basalt, bk.	169	3212·5	—	3215·5	40	80·5
4466	Syenite, gr.	165	3990·9	—	4030	50	80·6
4467	Basalt, br.	38	6447	—	6457	80	80·6
4468	Basalt, bk.	166			16130	200	80·6
4469	Basalt, bk.	54			3230·0	40	80·7
4470	Hæmatite, rd.	38–43			40·4	½	80·8
4471	Syenite, gr.	168	6466	—	6471	80	80·9
4472	Syenite, gr.	11–167	4056·8	—	4058	50	81·1
4473	Syenite, bk.	11–54			4063·7	50	81·2
4474	Syenite, gr.	10–11			3254·0	40	81·3
4475	Jasper, gn.	15 thin			40·7	½	81·4
4476	Basalt, bk.	10–54			3258·2	40	81·5
4477	Basalt, br.	33 tall			163·2	2	81·6
4478	Syenite, bk.	10–54			3262·6	40	81.6
4479	Basalt, bk.	20–33	32510	—	32670	400	81·7
4480	Basalt, bk.	167			4090·7	50	81·8
4481	Syenite, bk.	54–87			4101·5	50	82·0
4482	Basalt, bk.	11–54			3283·3	40	82·1
4483	Granite, gr.	165	8200	—	8210	100	82·1
4484	Diorite, gr.	166	3290·1	—	3292	40	82·3
4485	Granite, gr.	7–42	2063·4	—	2070	25	82·5
4486	Basalt, bk.	7–114	8111	—	8260	100	82·6
4487	Syenite, gr.	3–11			16530	200	82·6
4488	Syenite, gr.	11			8279	100	82·8
4489	Basalt, br.	27–33			166·0	2	83·0
4490	Jasper gn.	5			332·0	4	83·0
4491	Felsite, gr.	7–54	4157·2	—	4170	50	83·1
4492	Basalt, bk.	39–54			4191·9	50	83·8
4493	Basalt, bk.	2			4192·2	50	83·8
4494	Syenite, bk.	7–54			4192·4	50	83·8
4495	Basalt, gr.	11			8381	100	83·8
4496	Hæmatite, bk.	109			168·0	2	84·0
4497	Basalt, bk.	11–54			4198·1	50	84·0
	PERSIAN SILVER STANDARD (3).						
4498	Syenite, br.	11–14			8536	100	85·4
4499	Basalt, br.	12–63			864·3	10	86·4
4500	Jasper, gn.	162			865·6	10	86·6

60. The whole of the preceding results are shown in the diagram on Pl. xxvii., to which we now refer. In the Egyptian kat weights the distribution is different to that which we have seen to prevail in both Naukratis and Defenneh, and elsewhere (see *Tanis II.*). Though generally covering the same range, none of the prominent varieties (shown by the greater heights of the curves) are alike. This seems to show that they come down by a descent different from that of the Delta weights. The smaller weights, which were probably used more for valuable articles, have not so wide a range, being nearly all within the range 141 to 150 grs.: the haematite weights, however, belong to a low variety, four being less than 142, and only one over that. A unit of two kats is shown by No. 4022, which is marked with five cuts on the top; being of one uten, this shows two kats as a basis; and it is connected with the two-kat weights being commoner than those of the unit, the kat.

A remarkable multiple of the kat seems to have been used at Memphis. Many weights were noticed not to agree to any system, except to binary and ternary multiples of the uten; and though such multiples are so unusual that they could not readily be accepted, yet the quantity of examples of these weights, and their near agreement, obliges us to regard them as a special variety. That they are a branch of themselves, and not merely unusual multiples of the uten, is seen by their not being distributed over the whole range of the uten. On the diagram will be seen, within the "Egyptian" curve, a smaller broken line showing the distribution of these weights, which I provisionally call the Memphite bi-uten. Their basis may have been the uten, only we have as yet no ground to take a lesser basis than two utens. The data of this curve are entered below it by sloping marks, to distinguish them from the upright kat marks. It will be noticed that the large multiples of the kat (3 of 100, 5 of 200 and 1 of 1000), just agree in their distribution with the curve of this peculiar series; and probably therefore should be regarded as the lower multiples of this slightly differenced unit. The truth seems to be that at Memphis the uten was not treated decimally in all cases (including multiples by 2 and 5), as was usual elsewhere; but was multiplied by 2, 4, 6, 8, 12 and 40: a course so unusual that we are justified in separating it as a local variety of a high standard.

61. Of the Assyrian shekel, there are but few examples as compared with the numbers found at Naukratis and Defenneh. This standard seems never to have taken root at Memphis; and the characteristic sexagesimal multiplication of it is entirely absent. Not a single multiple by 3, 6, 12, 30 or 60 is found, all the examples being on the Egyptian decimal system of multiples, ¼, 2, 4, 5, 10, 20 and 100. A very curious token of the neglect of this system is shown by weight No. 4420; this is of alabaster, a favourite material for Assyrian weights, and it weighs exactly half a mina (3835 ÷30=127·8); but it is marked with 19 on its face, an odd number which at once shows it to be an adapted weight. Originally then a half mina weight, it was useless at Memphis where the mina was unknown; consequently it was weighed in terms of another standard—the Aeginetan—and marked to be used for that.

The system of weight later known as the Attic standard, from having been adopted by Solon to replace a previous system, is very common at Mem-

phis. This fact corroborates what I had previously pointed out as to the pre-Greek origin of this unit; especially as the absence of leaden weights here shows the lack of Greek influence. Further, one of these weights, No. 4284, bears an inscription probably of the XXVIth dynasty (see Pl. xxviii.). There is much confusion between the heavier varieties of this and the lighter Kat weights; and I have been obliged to make a somewhat arbitrary separation. But that they really constitute two separate units, may be seen on looking at the smaller multiples in the diagram; these are the more accurate, and the separation between the Attic and the kat units is very marked and clear in all the lower multiples: it is only on reaching 20 units that the confusion arises. The lowest varieties of the Attic are also due to the rougher large weights, the accurate small weights being nearly all between 66·5 and 69 grains. A super-multiple of half a mina is shown by No. 4248, which is marked with the hieroglyphic "10" on the top; as it weighs 500 drachmae, this shows 50 drachmae to be the basis of its numeration.

The Phœnician shekel standard is considerably developed in Memphis. And this, coupled with the rarity of the Assyrian, points to these weights belonging mostly to a period after the Phœnician intercourse, but before the Assyrian conquest, about 700 B.C. The distribution differs from the examples at Naukratis and Defenneh, excepting the main features of a maximum at 223, a fall at 226, and a second maximum. The extent of range is, however, just the same. There are very few small weights, however, among the Memphite, scarce any under five ounces, and they are mostly over half a pound British; hence this was not a standard for valuable articles.

The Aeginetan standard—so called from its use at Aegina in later times—was an ancient unit in Egypt. I pointed out in 1883 (*Arch. Jour.*) that the weight of Amenhotep I. in the British Museum, shows by its inscription an indubitable unit of 207·6 grains, and that this was probably an early weight of the Aeginetan system. Syrian examples bridged over the interval between 207 and 192 grains, but that was all. Now, however, at Memphis we find two marked weights, No. 4420 giving a unit of 202 grains, and No. 4407 giving a unit of 196 grains. Thus by marked examples in Egypt we have 207, 202, and 196 grains, fully connecting this standard with the historic Aeginetan system. On looking at the diagram in Pl. xxvii. it will be seen that the examples of this standard at Memphis just cover this same range, being there entered on the halfstater or drachma as 95–104 grains. This is considerably different to the Naukratite or ordinary Greek distribution, which alike extend from 92–100, but not higher; the high range of the Memphite examples probably belongs to the earlier, pre-Greek, period, when the unit was not so much degraded from the heavy standard of 104 which occurs under Amenhotep I. For the further consideration of the history of this standard in Greece, refer to "Weights and Measures," in the *Encyclopædia Britannica*, where I have stated its varieties.

The standard which I found at Naukratis, and provisionally called the "eighty-grain," was very fully used at Memphis; and its range extends about two grains higher than at Naukratis. There is otherwise nothing special in the examples here found; and for its history and names in other countries I must refer to the article above mentioned.

The Persian silver standard, always a rare one, is particularly scarce at Memphis, agreeing to the early age of these weights.

In general it may then be said that where there are differences from the series found at Naukratis and Defenneh, they are such as are fully explicable by the more inland origin, and earlier age in general, of the Memphite collection. The broad features of interest are the extension in full force in Memphis of the two systems which we know by Greek names, as the Attic and Aeginetan, thus confirming what I had before suggested of their Egyptian origin.

62. At the foot of Plate xx. are some illustrations of the mechanics of the Egyptian balance. This has been so misunderstood by Wilkinson, that it is well to set this matter in its obvious light. The beam was suspended by a loop or ring from a bracket projecting from the stand; this bracket is shown in side view though at right angles to the beam, just as the Egyptians drew a full eye in a side face. Then below the beam a long tongue was attached, not above the beam, as with us. To test the level of the beam, a plummet hung down the tongue, and it was this plummet which was observed to see if the tongue was vertical and the beam horizontal. The weigher is often shown steadying this plummet with his hand, as it would be set swinging by the motions of the beam. Such is the whole system, which is so simple, that it seems strange that any mistake could be made about it; to say nothing of the mechanical absurdity of the explanation which has been current for so long.

MR W. M. FLINDERS PETRIE.

THE PYRAMIDS AND TEMPLES OF GIZEH. By W. M. Flinders Petrie. Containing an Account of Excavations and Surveys carried on at Gizeh during 1880–81–82; with the application of the results to various modern theories of the Pyramids. (*Illustrated.*) Cheap and Revised Edition. Six Shillings.

"No one can fail to profit by a study of Mr Flinders Petrie's exact and luminous account of the Pyramids and Temples of Gizeh."—*Spectator.*

LONDON: FIELD & TUER.

TANIS. Part I., 1883–84. By W. M. Flinders Petrie, Author of "Pyramids and Temples of Gizeh," &c. With 19 Plates and Plans. Royal 4to, pp. viii and 64, boards. 25s.

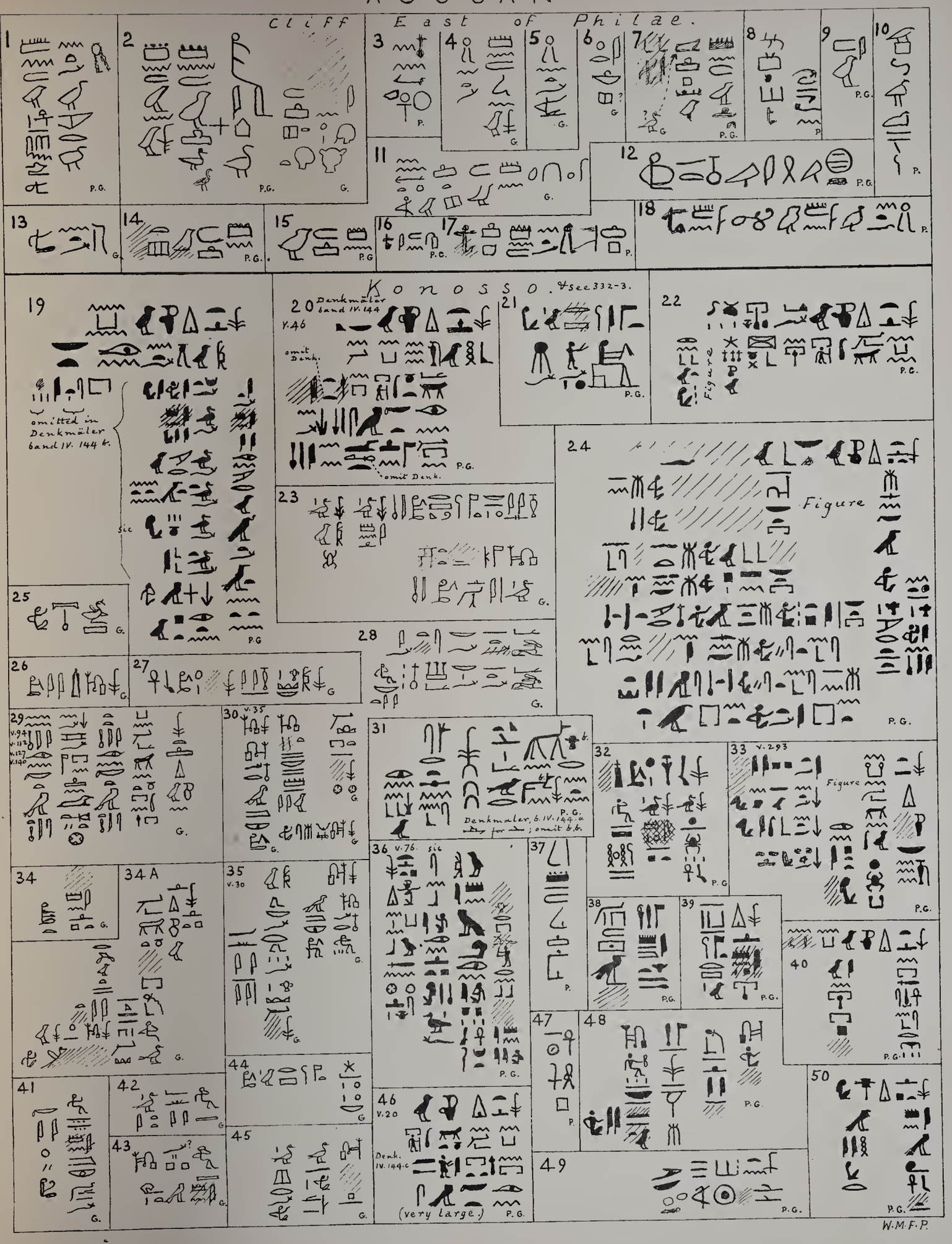
LONDON: TRÜBNER & CO.

TANIS. Part II. Nebesha Daphnæ (Tahpenes). By W. M. Flinders Petrie and F. LL. Griffith. Royal 4to, pp. viii and 164. Sixty-four plates, boards. 25s.

LONDON: TRÜBNER & CO.

NAUKRATIS. I. By W. M. Flinders Petrie, with Chapters by Cecil Smith, E. A. Gardner, and B. V. Head. Royal 4to, pp. viii and 100. With 45 Plates. 25s.

LONDON: TRÜBNER & CO.


Cliff
East of Philae.
Konosso. ✱see 332-3.
Denkmäler band IV. 144
omit Denk.
omitted in Denkmäler band IV. 144 b.
sic
Figure
Denkmäler, b. IV. 144. a
(very large.)
W.M.F.P.

Konosso.

51 Woman Man Man P.G.

52 Man P.G.

53 P.G.

54 Woman Man P.G

A portion of a very rough inscription of 26 columns.

55 P.

Bigeh. and see 334-6

56 P.

57 P.

58 P.

59 P.

Pile of rock N. of Konosso

60 Figure Figure P.

61 P.

62

63 v. 96. Two figures. Figure P.

64 Figure. P.

65 Figure.

66 Figure. P.G.

E. of previous,

on N. face of flat block crowning high pile.

67 P.G.

In southern valleys of road from Philae to Assuan. and see 338-341

68 P.G.

69 P.G.

70 Hawk over king. Messuc bearing the fan and bowing. Merenptah in chariot, looking back P.G.

71 P.G

72 Four columns scaled off. P.G.

73 P.G.

74 v. 106 v. 106 P.G.

75 Figure Figure Figure Figure. P.G.

76 v. 36 sic P.G.

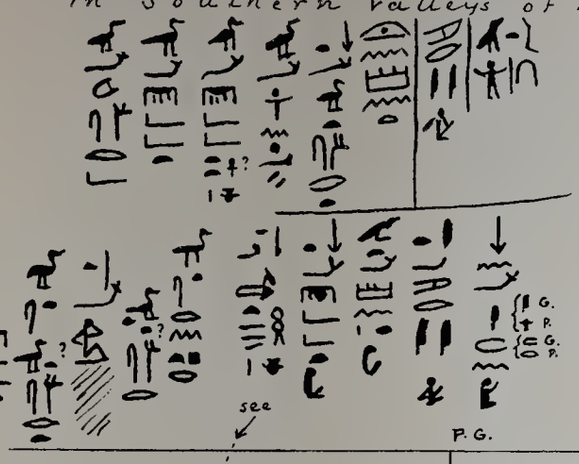
77 Figure erased P.G.

78 P.G.

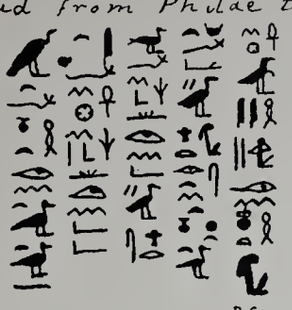
W.M.F.P.

In Southern valleys of road from Philae to Assuan.

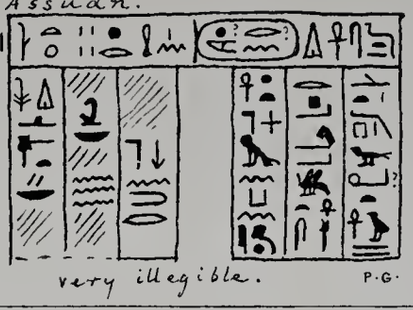
79



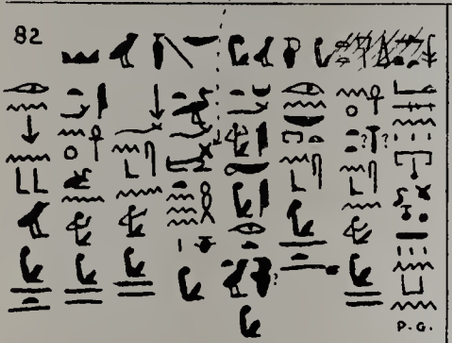
80



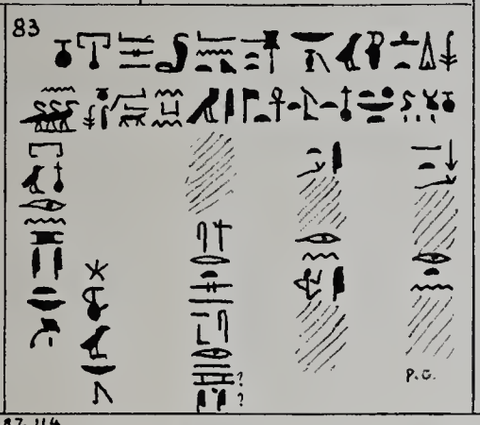
81



82



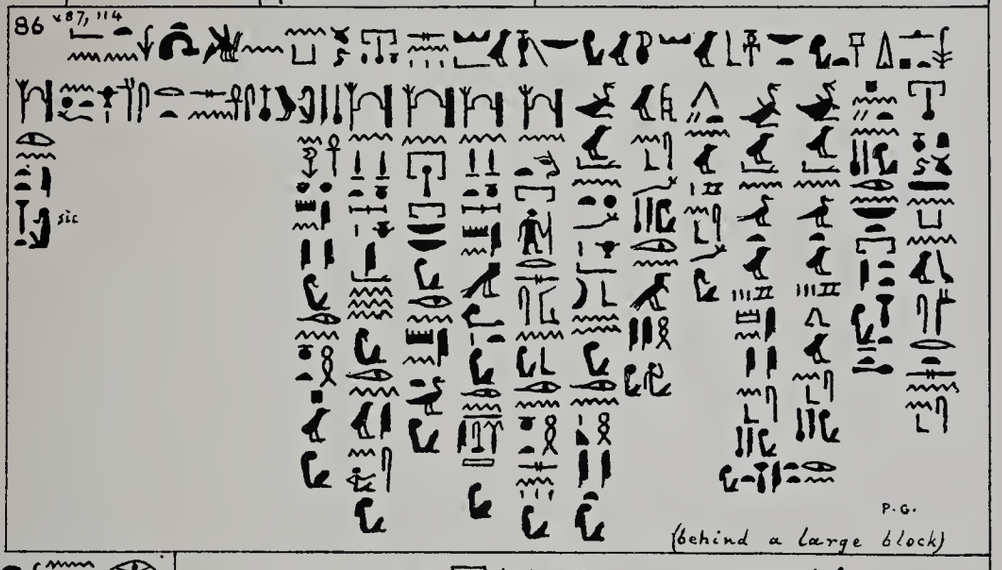
83



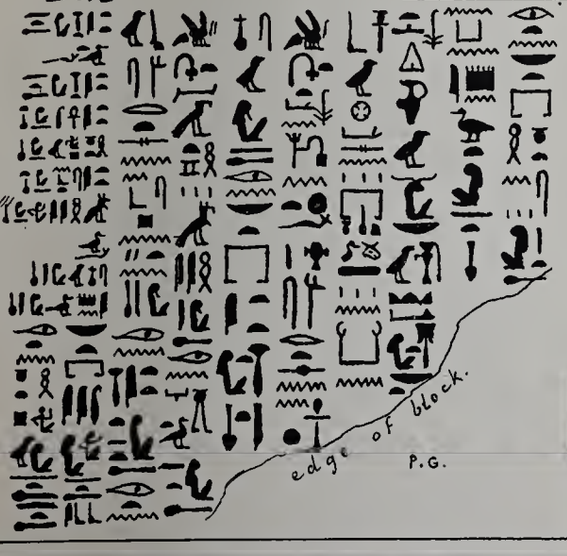
84

85

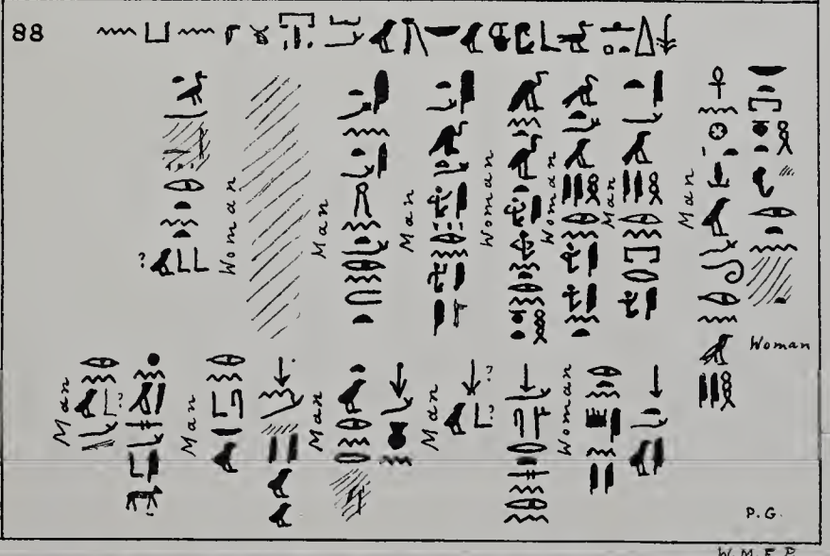
86 v87, 114



87 v86, 114



88



W.M.F.P.

In southern valleys of road from Philae to Assuan.

89 v. 132 133 v. 149

90

91

92

93

94 v. 29 v. 112. 140 v. 127.

95

96 v. 63.

97 v. 134.

98

99

100

101

102

103

104

105

106 v. 74.

vars. Denkmaler band IV. 110b. a —, b 0, c =, d e omitted

small table of offerings

W.M.F.P.

In southern valleys of road from Philae to Assuan.

107 Man P.G.

108 G.P.

109 Seti I striking down an enemy

Amenemapt standing.

on a very high rock. P.G.

110 His son. Amenemapt P.G.

Seti I in chariot grasping an enemy, horses held back by attendant.

111 Man Woman P.G.

112 v. 29, 94, 127, 140 P.G.

113 var. Denkmäler II. 118.

1 — 6 7 omitted

2 8 9 —

3 10 11 —

4 —

5 O 12

P.G.

114 v. 86, 87 P.G.

115 P.

116 P.G.

117 P.G.

118 P.G.

119 Man P.G.

120 P.G.

121 P.G.

122 Man Man Man P.G.

123 Father standing

Boy holding up an animal and leading two dogs. P.G.

124 P.G.

125 P.G.

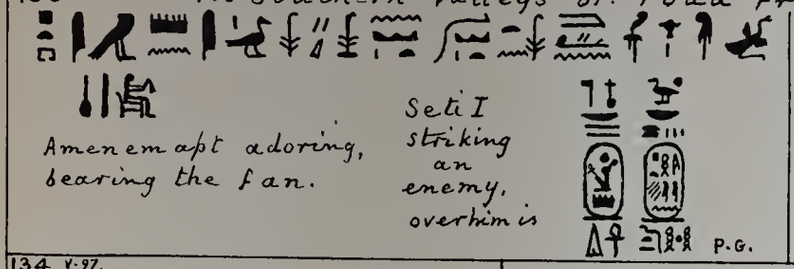
126 Two men facing. P.G.

127 v. 29, 95, 112, 140 P.G.

128 P.G.

W.M.F.P.

130 In southern valleys of road from Philae to Assuan.

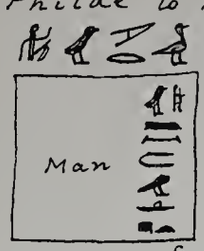


Amenemapt adoring, bearing the fan.

Seti I striking an enemy, over him is

P.G.

131

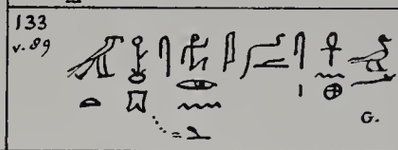


G.

132 v. 89

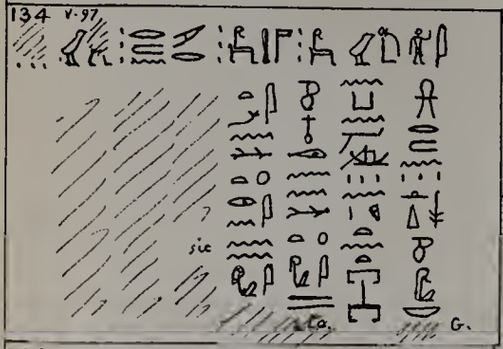
G.

133 v. 89



G.

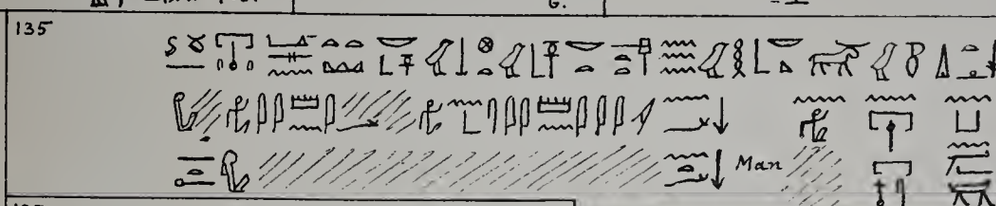
134 v. 97



sic

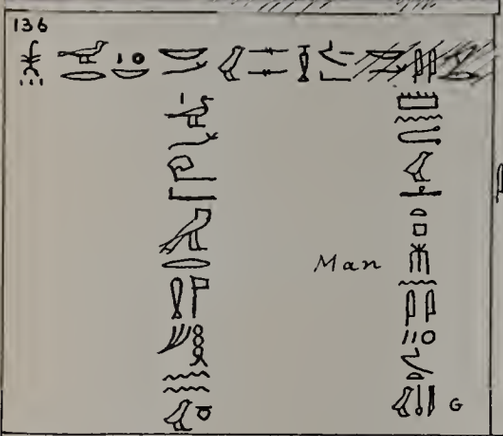
G.

135



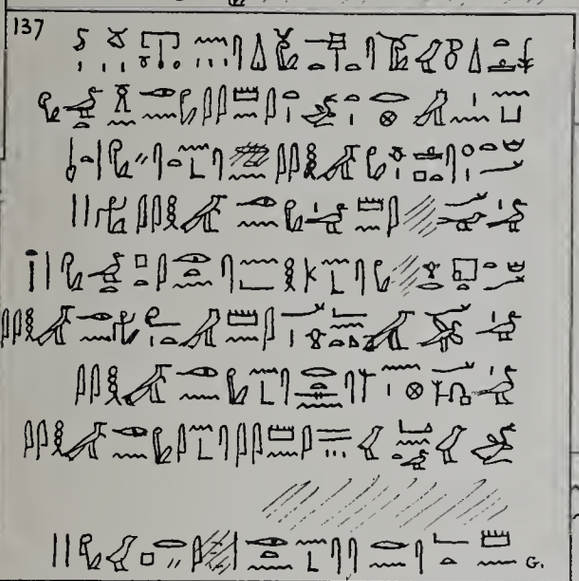
G.

136



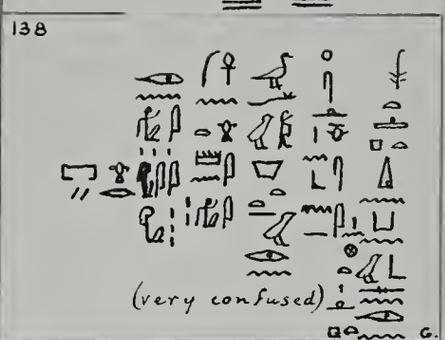
G

137



G.

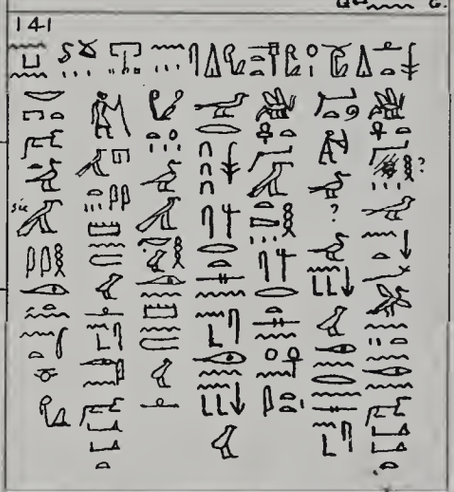
138



(very confused)

G.

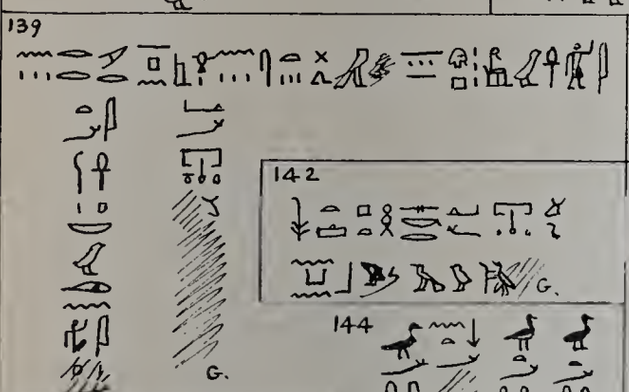
141



sic

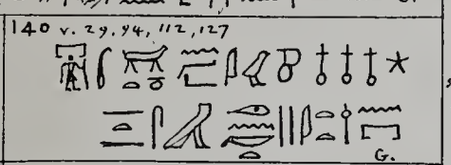
G.

139



G.

140 v. 29, 94, 112, 127

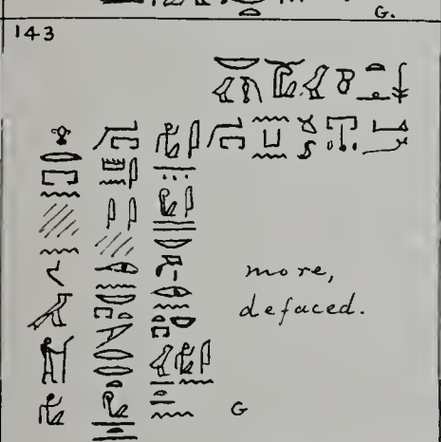


G.

142

G.

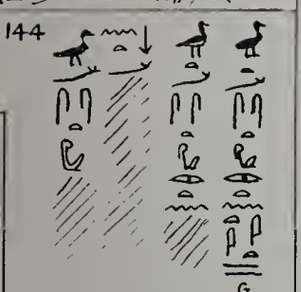
143



more, defaced.

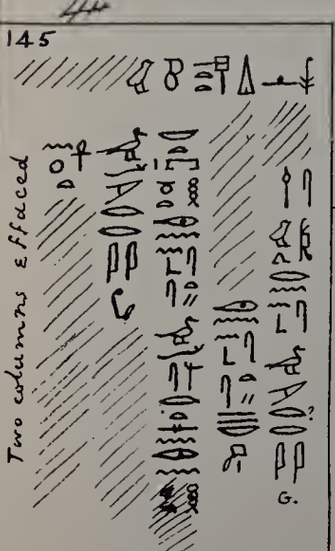
G

144



G

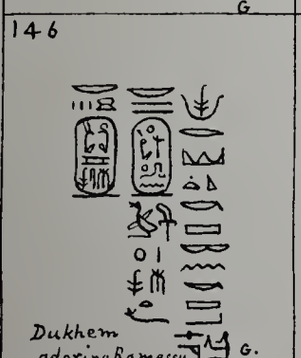
145



Two columns effaced

G.

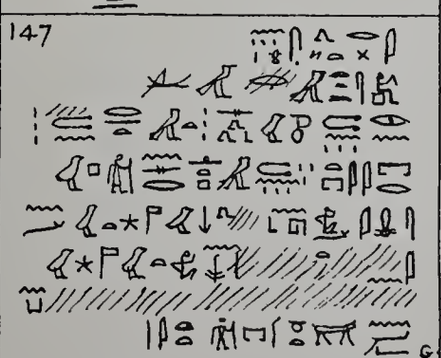
146



Dukhem adoring Ramessu

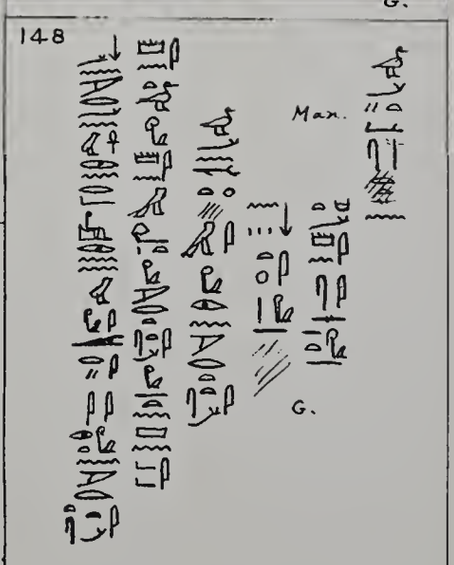
G.

147



G

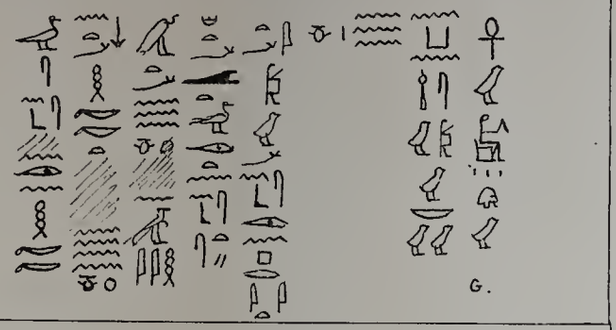
148



G.

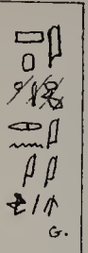
W.M.F.P.

149 v.89 *In southern valleys of road from Philae to Assuan.*



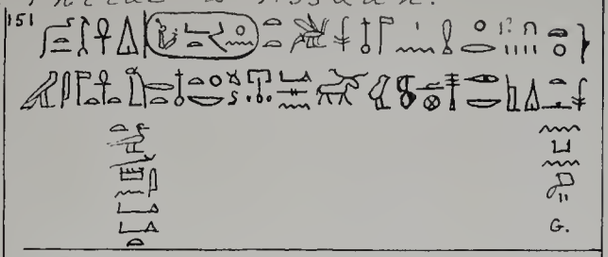
G.

150



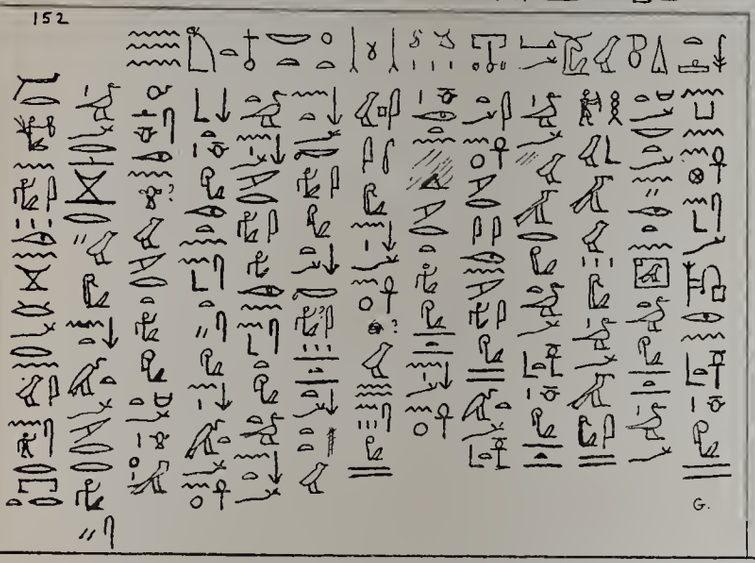
G.

151



G.

152

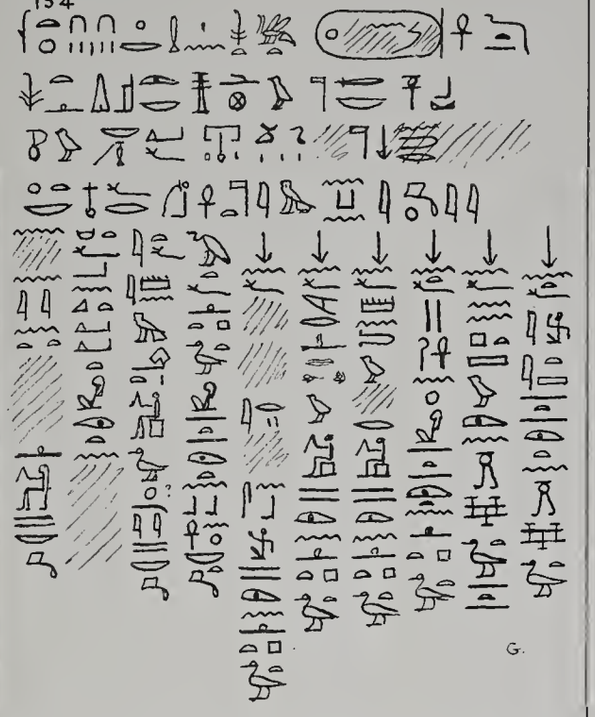


G.

153

G

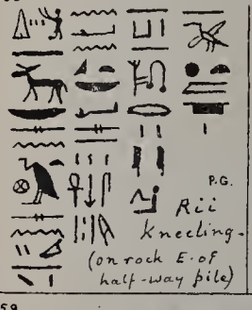
154



G.

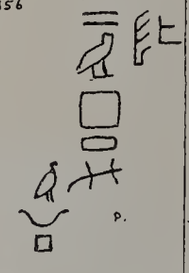
In wide valley of north part of road from Philae to Assuan.

155



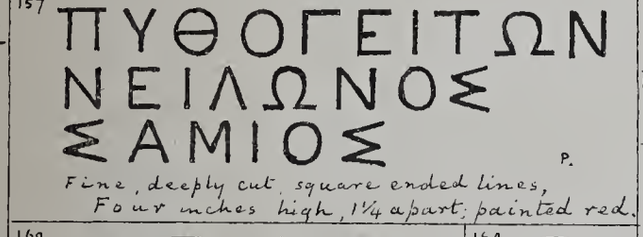
P.G. *Rii Kneeling- (on rock E. of half-way pile)*

156



P.

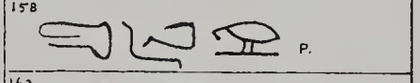
157



P.

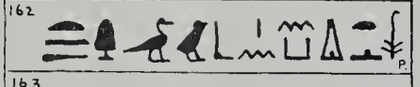
Fine, deeply cut, square ended lines, Four inches high, 1¼ apart, painted red.

158



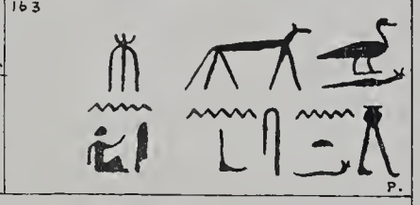
P.

162



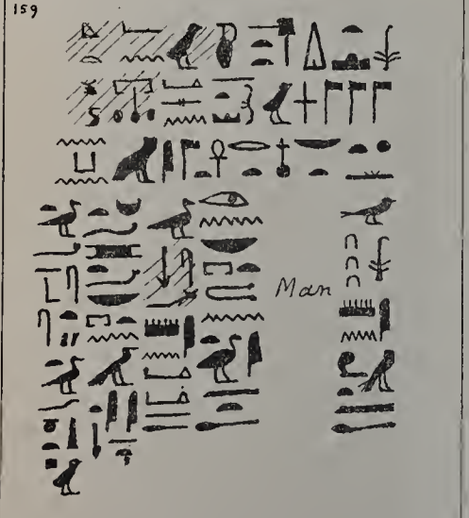
P.

163



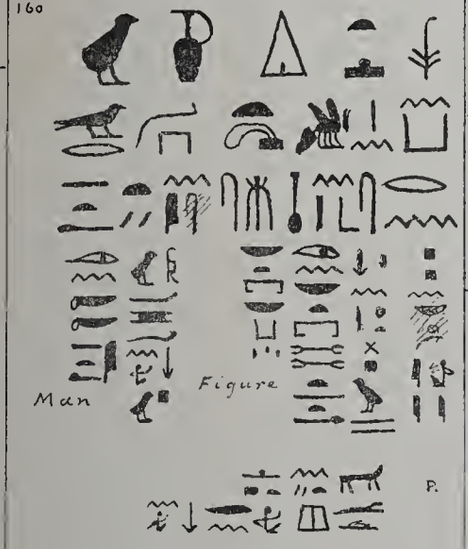
P.

159



Man

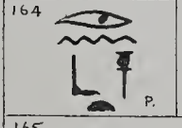
160



Man *Figure*

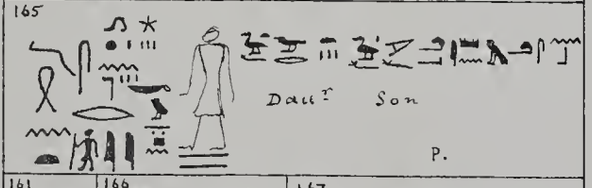
P.

164



P.

165



Dau^r *Son*

P.

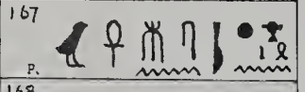
161

P.

166

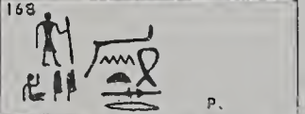
P.

167



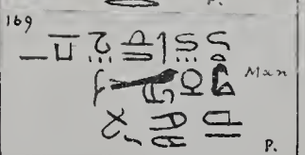
P.

168



P.

169



Man

P.

W.M.F.P.

North end of road from Philae to Assuan.

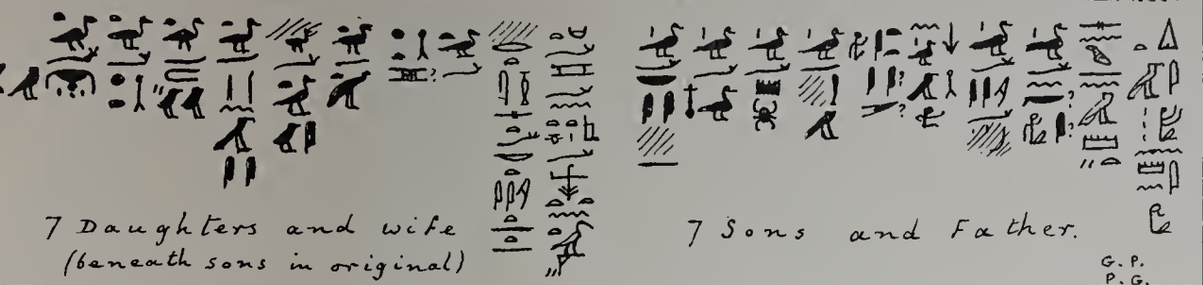
East side of river from Shellal village to Assuan.

179 – 197 Shellal village. 198–9 N. of Shellal. 200 – 241 E. bank, N. end of cataract. 242–4 village south of camp.

W.M.F.P.

Village south of Camp. Assuan.

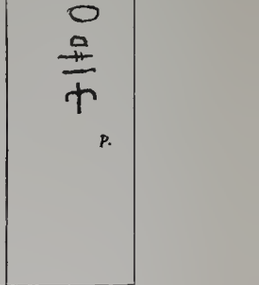
245



7 Daughters and wife (beneath sons in original)

7 Sons and Father.

246



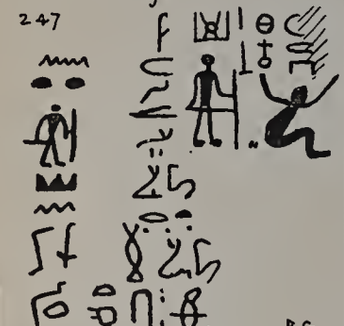
P.

G. P. P. G.

On high sandstone south-west of camp.

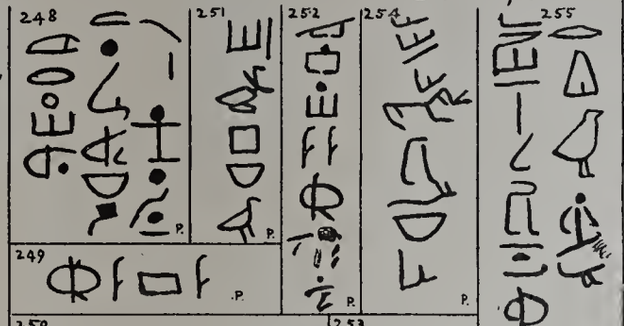
and see 342-6

247

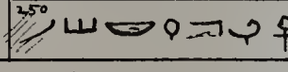


P.G

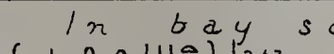
248 P. 251 P. 252 P. 254 P. 255 P.G.



249 P.

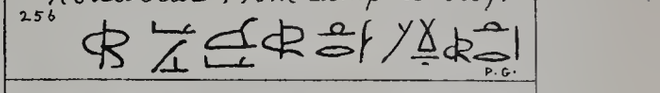


250 G. 253 P.



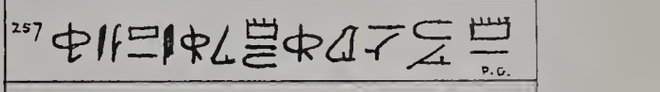
Roadside from camp to bay.

256



P.G.

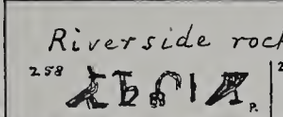
257



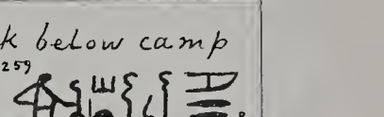
P.G.

Riverside rock below camp

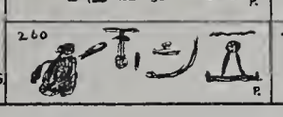
258 P.



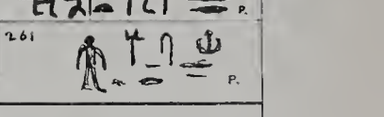
259 P.



260 P.

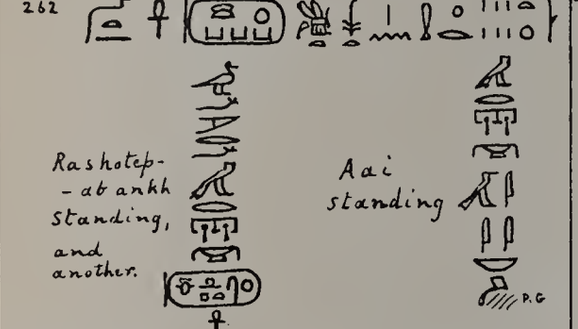


261 P.



In bay south of Assuan.

262

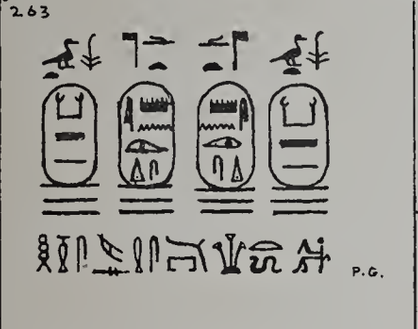


Rashotep-ab ankh standing, and another.

Aai standing

P.G

263

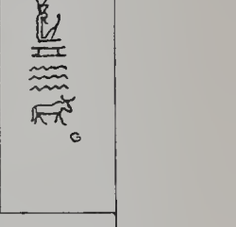


P.G.

264

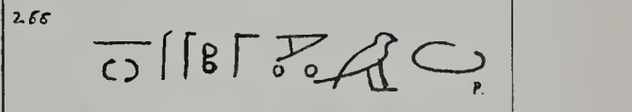
P.G.

265



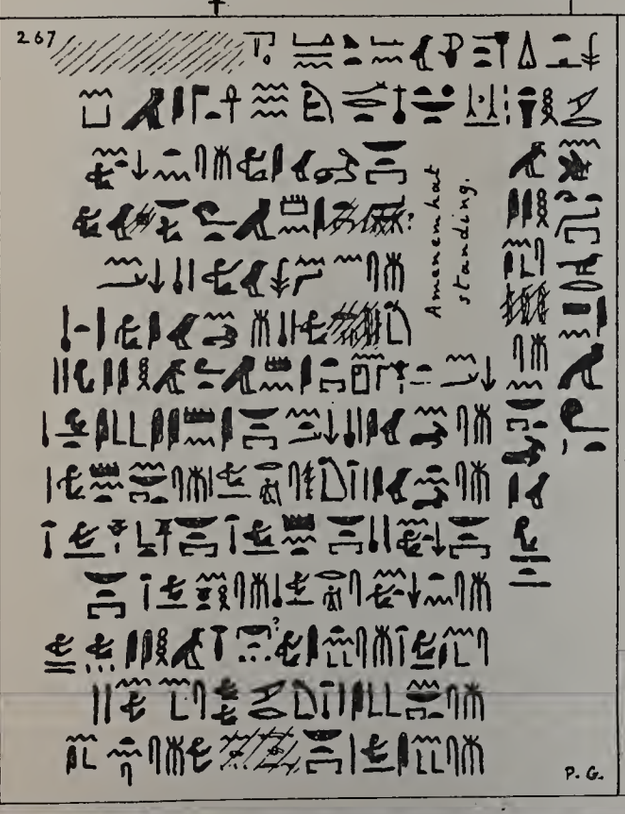
C

266



P.

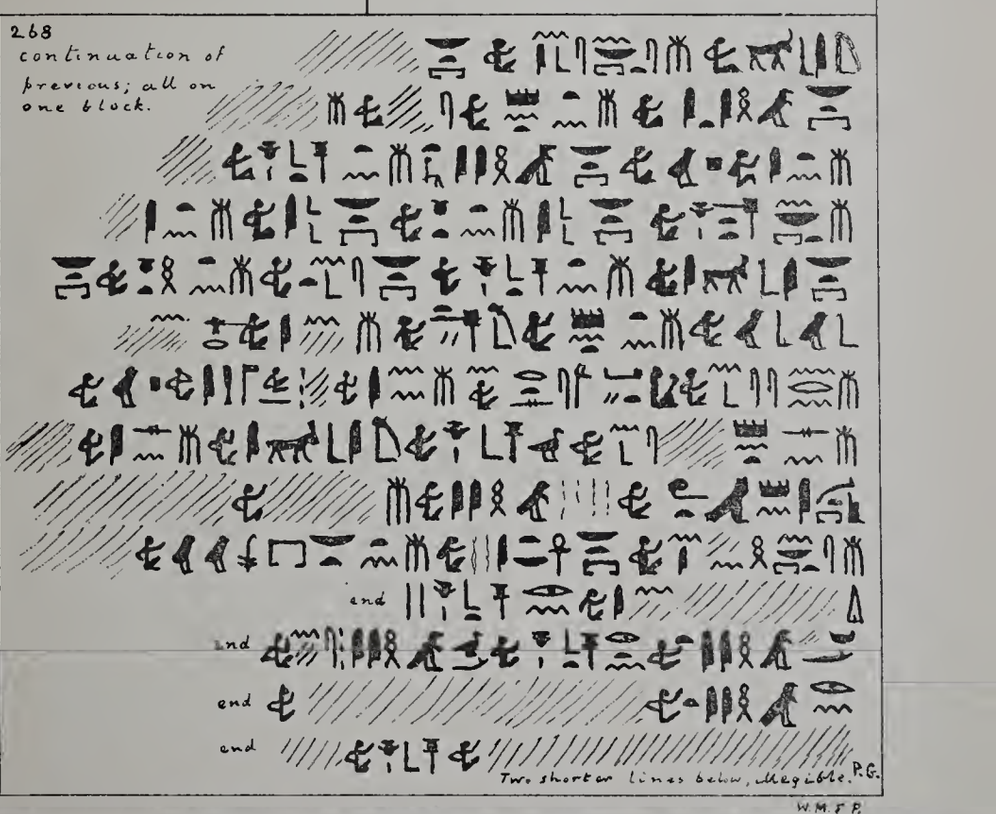
267



Amenemhat standing.

P. G.

268 continuation of previous; all on one block.



end

end

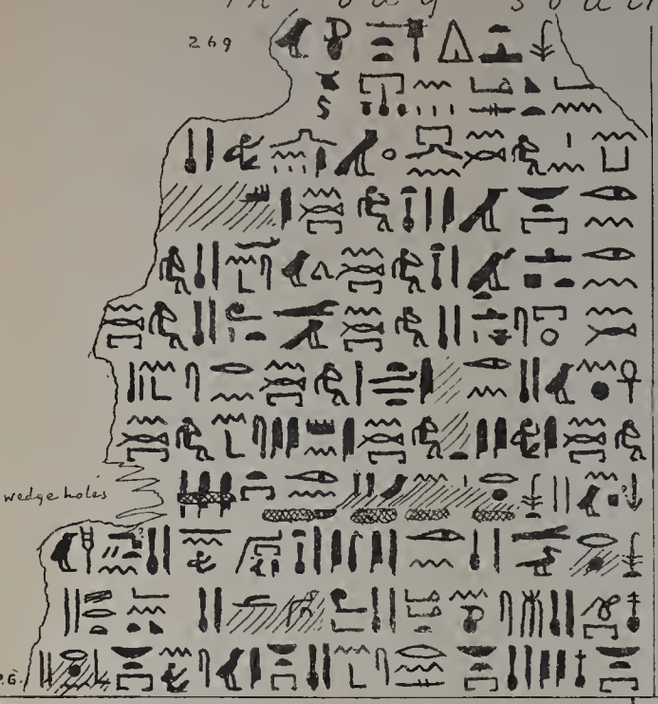
end

Two shorter lines below, illegible. P.G.

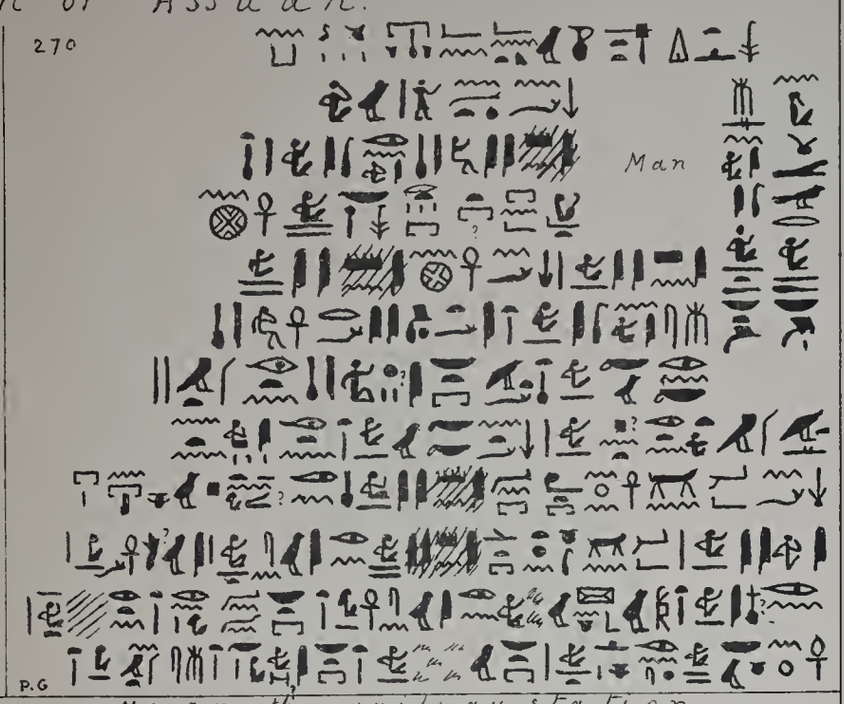
W.M.F.P.

In bay south of Assuan.

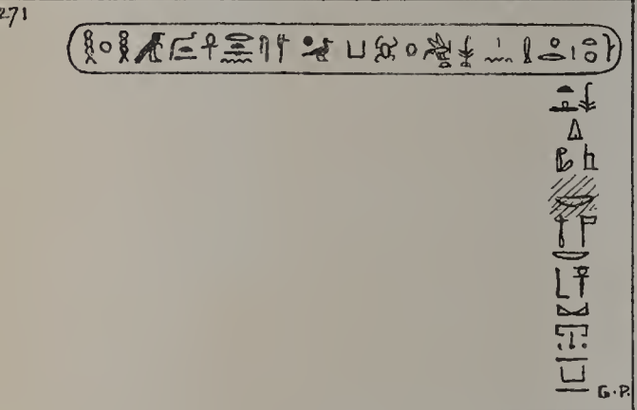
269



270



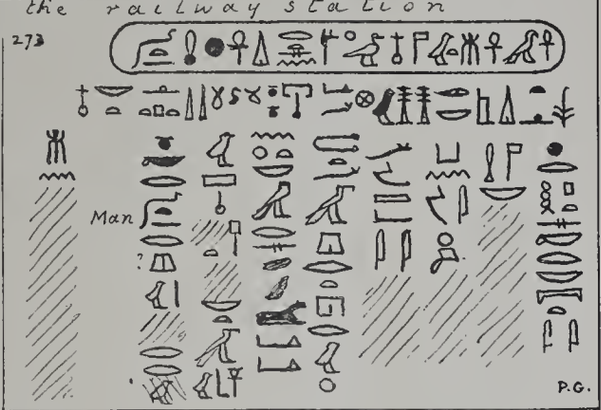
271



Near the railway station

272

273



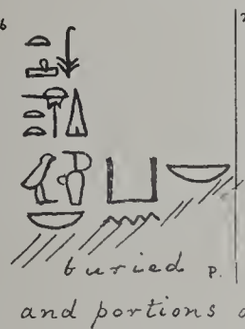
S. of the town, Assuan. and see 347-8.

274

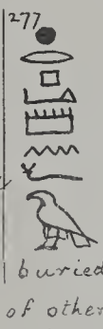
Tablets of Mermes & Amenhotep III engraved on earlier panel shewing palimpsest traces.

275

276



277



and portions of other very large early inscriptions, buried

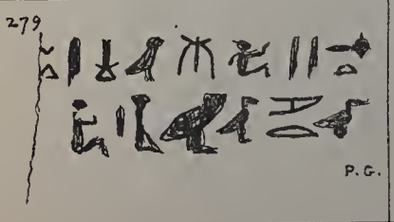
Also several illegible palimpsest tablets with traces of former inscriptions

278

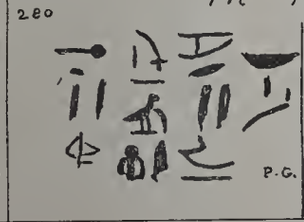
Next inscription a palimpsest, much confused: with cartouches of Siptah?

In Assuan.

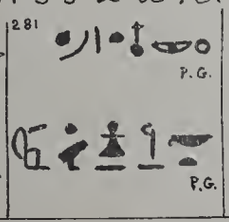
279



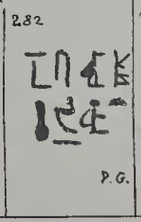
280



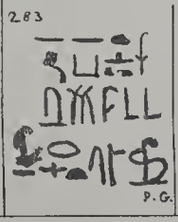
281



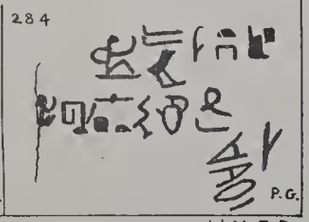
282



283



284



In Assuan. and see 353-6

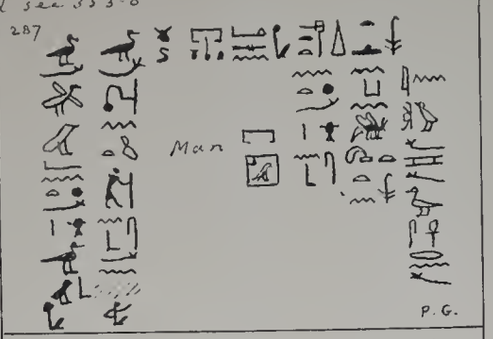
285

P.G.

286

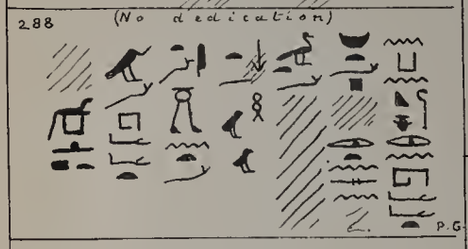
P.G.

287



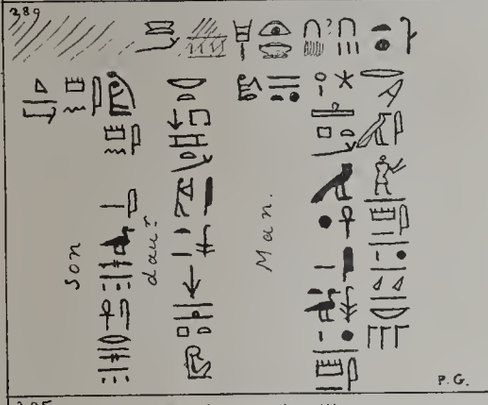
P.G.

288 (No dedication)



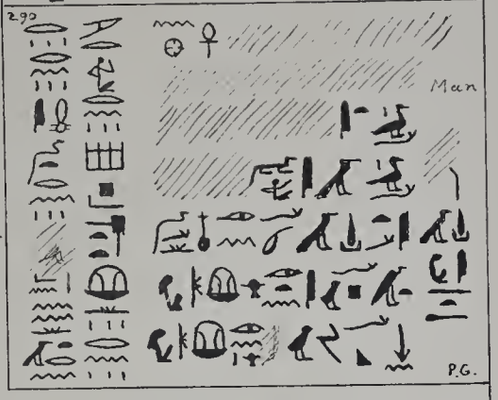
P.G.

289



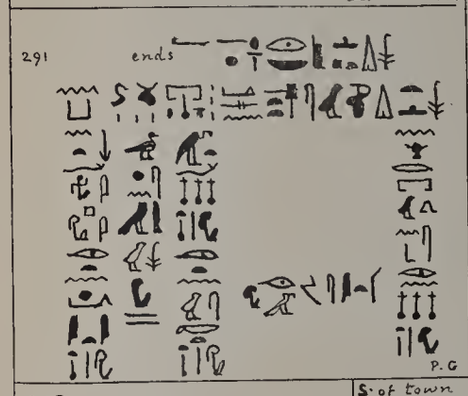
P.G.

290



P.G.

291 ends

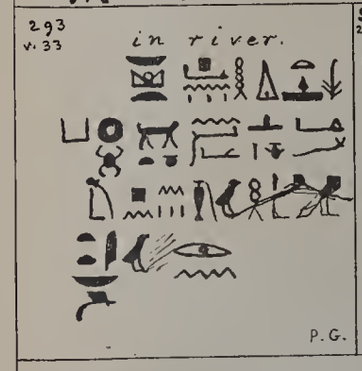


P.G

292

P.G.

293 v. 33 in river.

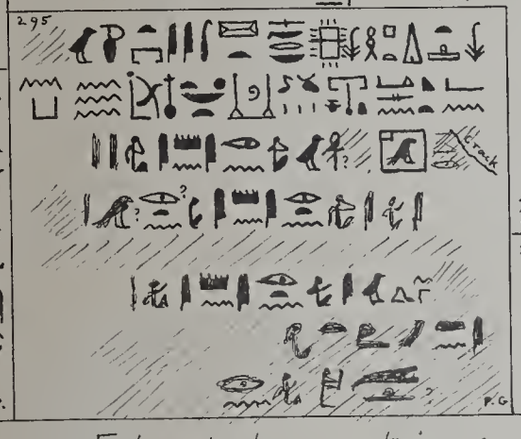


P.G.

294 S. of town

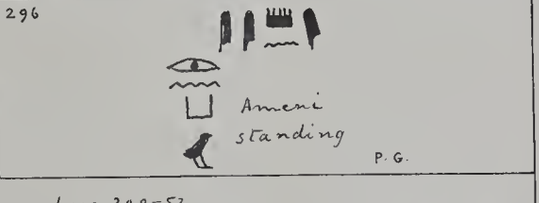
P.

295



P.G

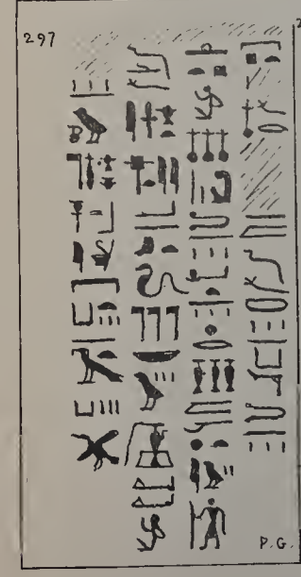
296



P.G.

Elephantine. and see 349-52.

297



P.G.

298

P.G

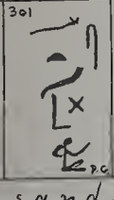
299

P.G.

300

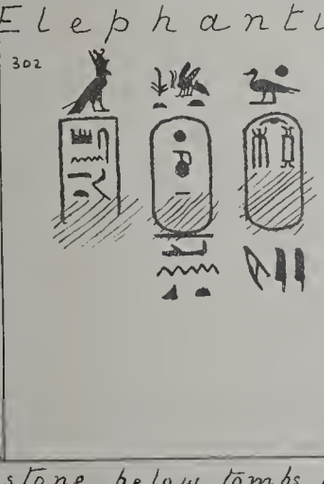
P.G

301



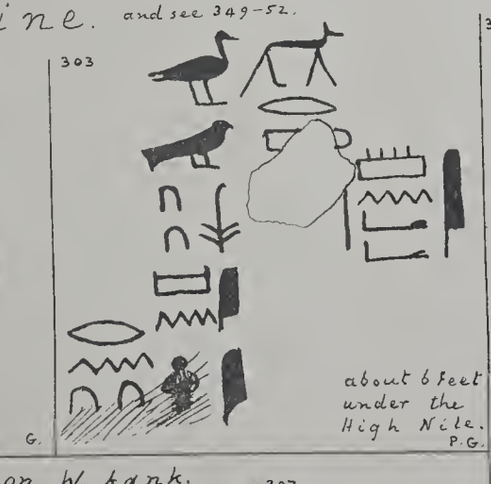
P.G

302



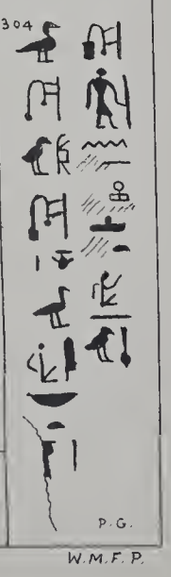
G.

303



P.G.

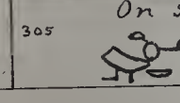
304



P.G.

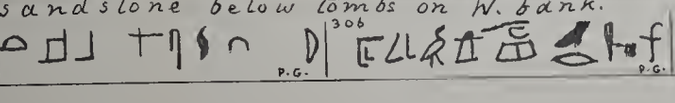
On sandstone below tombs on W. bank.

305



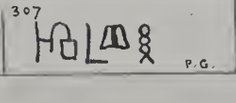
P.G.

306



P.G.

307



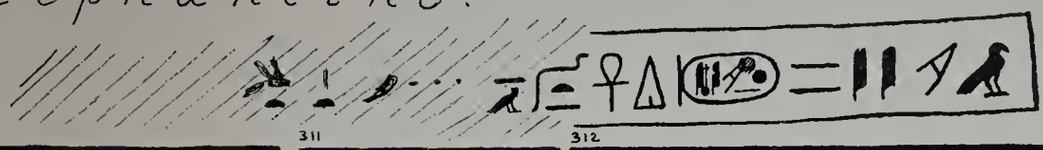
P.G.

W.M.F.P.

Elephantine.

308 On opposite side of the same rock as the next three tablets.

309



310.

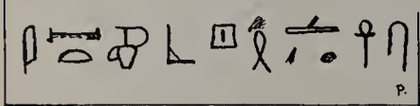
311

312

Scale $\frac{1}{20}$

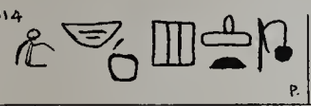
P. G.

313 ½ mile north of Esh Shedīdi, about six miles north of Assuan.



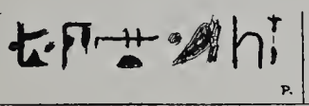
P.

314



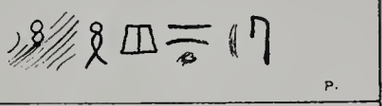
P.

315



P.

316



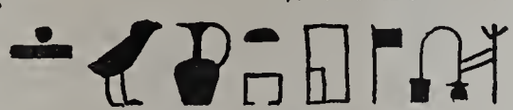
P.

About 8 miles from Assuan

317 Man

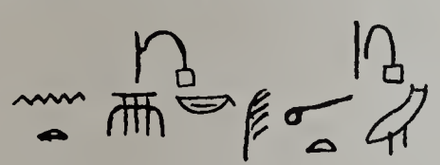
P.

318



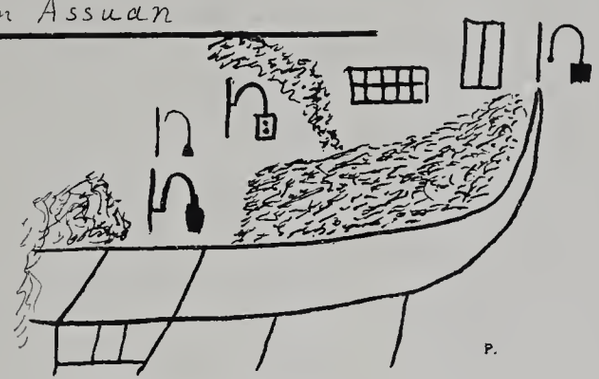
P.

319



P.

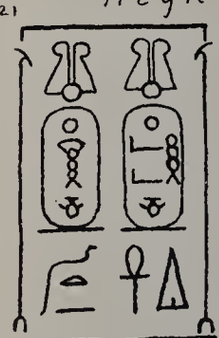
320



P.

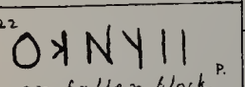
High path above river on cliff face, 10 miles north of Assuan

321



High over S. end path P.

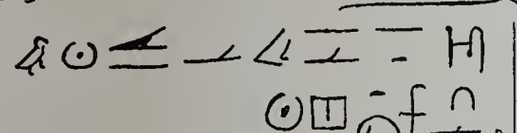
322



P.

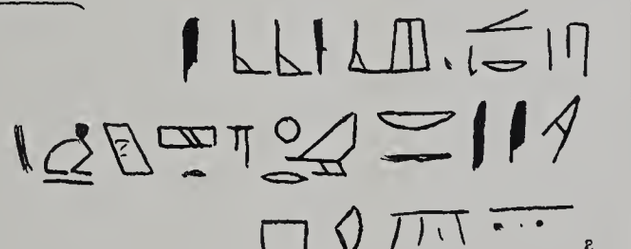
on fallen block, next to Following

323 on one block



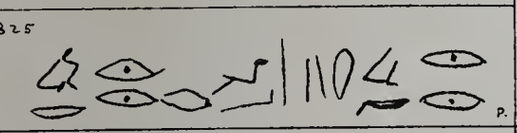
P.

324



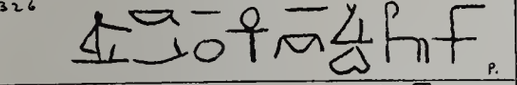
P.

325



P.

326

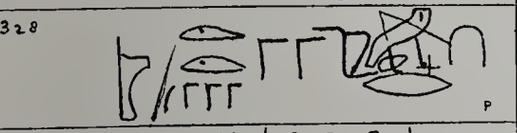


P.

327

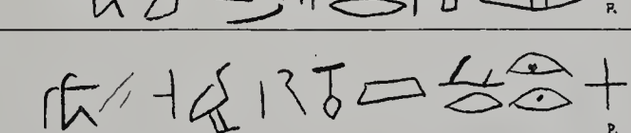
P.

328



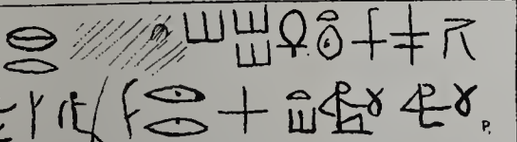
P

329



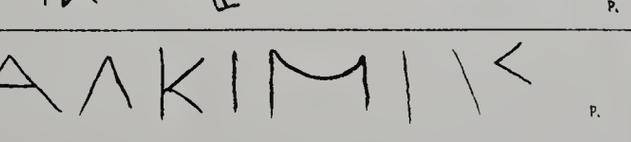
P.

330



P.

331



P.

W.M.F.P

332 Konosso G.

333 No 48. G.

334 Bigeh Rames adoring G.

335 Bigeh G.

336 Bigeh G.

337 by No 81. Road valley near Philae.

338 Road valley near Philae Rameses standing Khnumu seated. G.P.

339 G.

340 Road valley Philae to Assuan. G.P.

341 G

342 Sandstone cliff S.W. of camp. G

343 G.

344 G.

345 G.

346 G.

347 adoring Khnumu. below old town. Assuan. G

348 G. South of station

349 Elephantine. G.

350 G.

351 G.

352 G

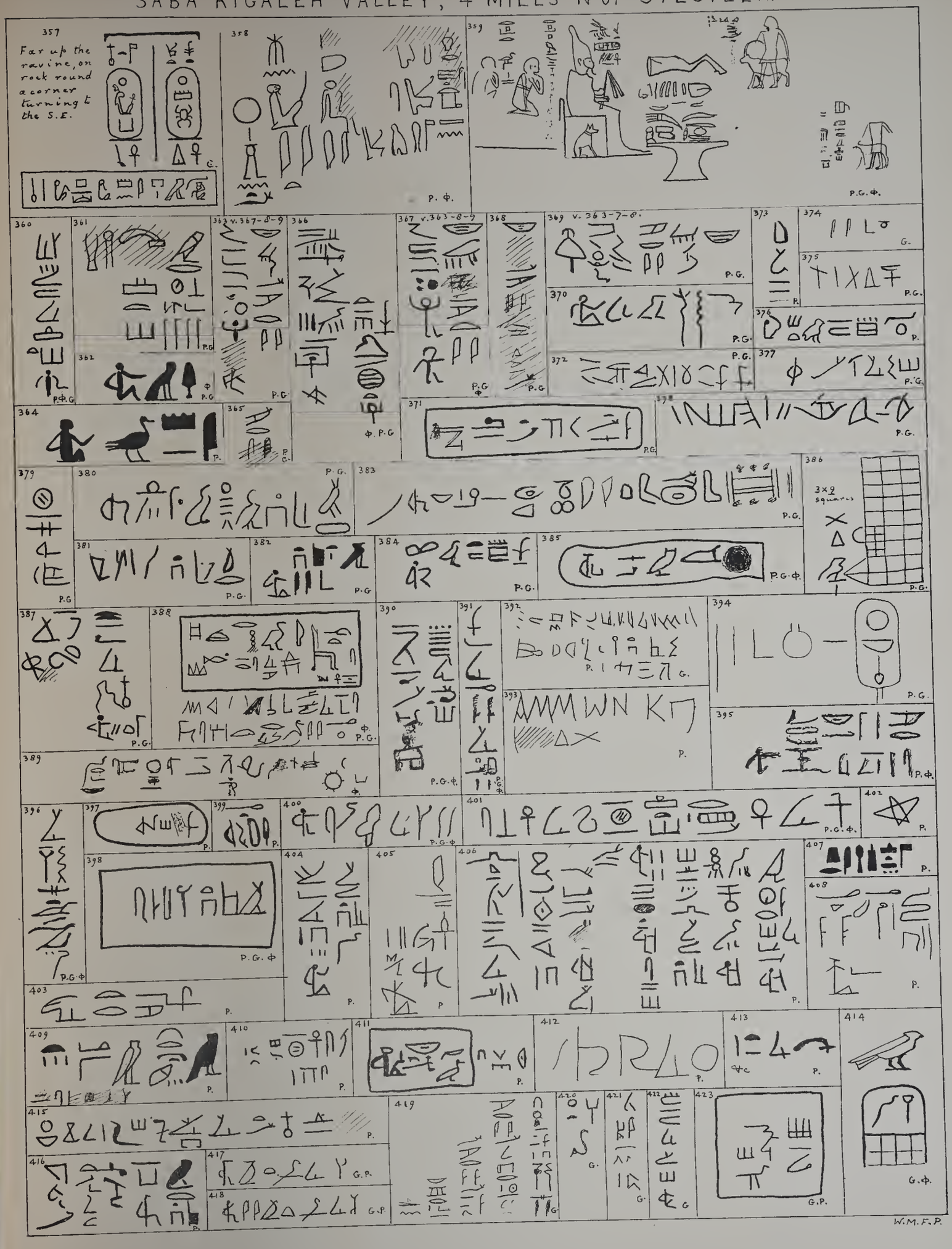
353 Assuan town G.

354 In Assuan Town blank. end. end. G

355 G.

356 G.

W.M.F.P.


357
Far up the ravine, on rock round a corner turning to the S.E.
358
359
360
361
362
363 v. 367-8-9
366
367 v. 363-8-9
368
369 v. 363-7-8.
373
374
375
370
376
372
377
364
365
371
378
379
380
383
386
3×9 squares
381
382
384
385
387
388
390
391
392
394
393
395
389
396
397
399
400
401
402
398
404
405
406
407
408
403
409
410
411
412
413
414
415
416
417
418
419
420
421
422
423

W.M.F.P.


424
425
426
427
428
429
430
431
432
433
434
435
436
437
438
439
440
441
442
443
444
445
446
447
448
449
450
451
452
453
454
455
456
457
458
459
460
461
462
463
464
465
466
467
468
469
470
471
472
473
474
475
476
477
478
479
480
481
482
483
484
485
486
487
488
cutaway
Sankhkan
G.
P.
G. E. Φ.
G. P.
W. M. F. D.

489

P.G.E.Φ.

490 P.G.Φ.

491 P.G.Φ

492 G.

493 P.G.

494 P. G.

495 P.

496 G.

Down W. bank of Nile; N. of Saba Rigaleh valley.

497 P.

498 P.

499
ΚΛΙΔΙΑ ΚΟΙΩΝΟΣ
ΑΠΟΛΛΩΝΑΜ P.

500

501 P.

502 P.

503 Taurt? standing.

504 MAAXIWN twice P.

505 ΔΩΡΙΩΝ P.

506 ΤΩΠΡΟCΚΥΝΗΜΑ
MAMXIWN P.

507 P.

508 P.

509 P.

510 P.

511

519 P.

520 ΠΑΥΙ ΜΑΧΟΙ P

521 ΠΕΤΡΟC P

522 ΦΙΛΗΜΩΝ P.

512 P

513 P.

514 P.

515

516 P. Φ.

517 P

518 P.

518

523 P.Φ

527 P.

528 P.

529 P.

530 P.

531 P.

524 P.

525 P.

526 P.

532 G.

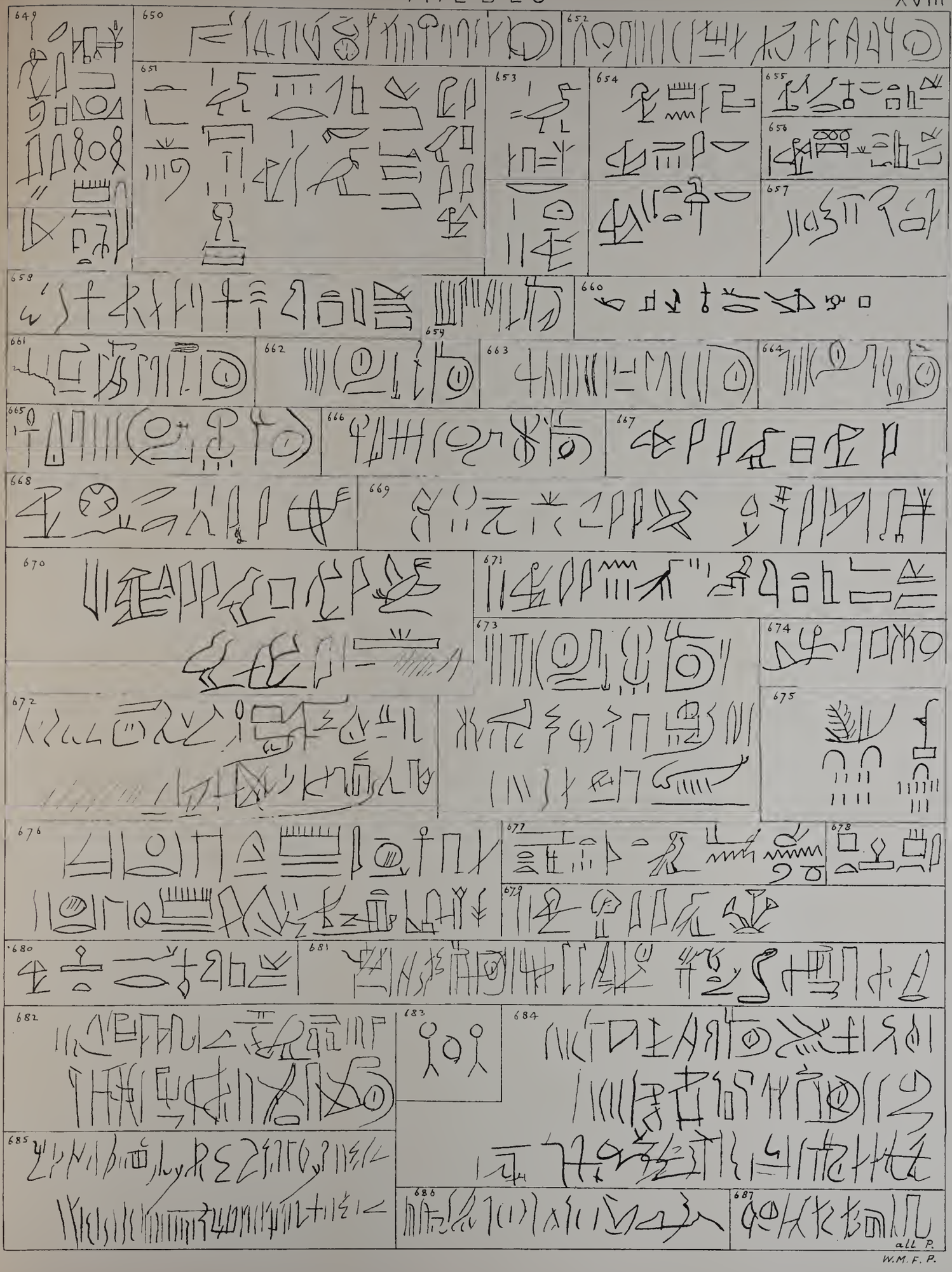
533 P.

534 PGΦ.

W.M.F.P.


ΛΙΑ ΑΝΤΩΝΙΝΟC ΜΕCΟΡΗ
ΟΝΙΛΟC ΕΙC ΗΛΘΕΝΕΙC
ΤΟΝΟΡΜΟΝ ΜΕCΟΡΗ ΚΕ
ΛΙΑ ΑΝΤΩΝΙΝΟC ΕΚΟΤΑΜΑΝ
ΤΟΥC ΜΕΓΑΛΟΥC ΛΙΘΟΥC
ΠΗΧΩΝ ΙΑ ΕΙC ΤΗΝ ΠΥΛΗΝ
ΤΟΝ ΚΥΡΙΟΥ ΑΠΟΛΛΩ
ΤΗC ΚΥΡΙΑC
ΕΠΑΓΑΘΩ
ΛΙΑ ΑΝΤΩΝΙΝΟC
ΧΟΥΜΙΟC
ΠΑΧΟΥΜΙC
ΠΑΗΜΑ
ΑΝΤΩΝΙΝΟC ΚΑΙCΑΡΟC
ΝΙΛΟC ΤΟΝ ΟΡΜΟΝ ΜΕCΟΡΗ ΚC
ΑΜΜΩΝΙΟC
ΑΠΟΛΛΩΝΙΟC
ΜΗΧΑΝΙΚΟC
ΑΡΧΙΜΗΧΑΝΙΚ
ΑΡΨΝΙC ΠΕΤΕCΘΕΩC
ΠΑΧΟΥΜΙC
From Seba Rigaleh ravine toward Silsileh.
ΠΕΤΕCΘΕΙC
ΕΠΙΜΑΧΟC ΠΟΛΥΑΡΙ
ΠΑΑΠΕΙC
Silsileh.
ΑΜΙΚ
ΠΙΣΤΟΚΛΗΣ ΕΥΜΕΝΟΥΣ
ΧΡΙCΤΙΑΝΩΝ
El Kab.
There are also some modern hieroglyphic inscriptions in honour of various Frenchmen.
ΚΥΡΥΙΩΤ
ΝΙΚΗΡΑΤΟC
ΟΨΙΚΤΟΡ
ΑΠΙC
ΠΛΑΤΩΝ
ΕΡΜΩΝΟC
ΗΚΩ ΠΑΓΑ
ΤΗ ΜΕΓΙCΤΗ
ΘΕΑ ΝΕCΜΙΘΙΝ
Naos of Ra and Ptolemaic temple.
Temple of Amenhotep III in the valley.

W. M. F. P.



all P.
W.M.F.P.

688 N. of Deir el Kosseir.
ΗΡΘΗΙω
ΛΔΧΟΙΑΚΟΤΑΗΕΙΕΑΡΨΙ P.

689 Isbayda.
COΦOC P.

690 Isbayda
ΑΠΑ ΦΟΙΒΑΜ
ΜΩΝ // ΜΝΑΠΑ
ΠΑΜΟΥΝ // ΜΝΑΠΑ
ΘΑΛΑΨΙΡΕ // ΜΝ
ΑΠΑΛΩΤΟ P.

691 Isbayda.

692 Nazlet Methara.
ϷΥΤΩΝ ΨΛΗΛΕΧΩΙΠΕΒΒΙΗΝ
(cont.) ΑΝΟΚ // ΠΕΡϹΖΑΝΑΙ
(next line) ΙΑΓΑΠΗ P.

693 Tehneh. 694 sic
ΗΛΓΙΝΑΛΛΕ]
ΝΔΡΟϹΘΜΟΥΤΟϹ P.

ΓΡΑΜΜΜΑΤΑΑΧΡΗΜΑΤΙϹΤΟϹΕϹϹΗ
ΓΡΑΜΜΑΤΑΑΧΡΗΜΑΤΙϹΤΟϹΕϹϹΗ P.

695 Dahshur. S. pyramid passage. P.

696 P.

Dahshur. South pyramid.

697 South end N. side, 11 or 12 up. P.

698 4 courses higher P.

699 P.

700 P.

701 higher P.

702 red / yellow / red P.

703 dressed away. P.

Karnak Amenhotep III 1.
Luxor Ramessu II 2.

Ramesseum blocks. 3 4 5 6 7 8 9 10 11 12 13 14 15 16

reliefs.

Quarries, Silweh, N. of Seba Rigaleh
17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49

Quarries Between Seba Rigaleh and Silsileh
50 51 52

Denderah, 53 on all of E. pylon

Edfu, on Roman quay 54 55 56 57 58 59 60 61 62 63

64 65 CEPAΠIC 66 Quarries, Silsileh, West. 67 68 69 70 71 72
standard marks

Quarries, East Silsileh.
73 74 75 76 77 78 79 80 81 relief 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99

Esneh, quay
100 101 102 103 104 105 106 107 108 109 110 111 112 113

Assuan quay wall.
114 115 116 117 118 119 120 121 122 123

Path by cliff, quarry 124 miles N. of Assuan. 125

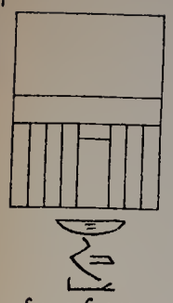
Kom Ombo 126 127 128 129 130 131

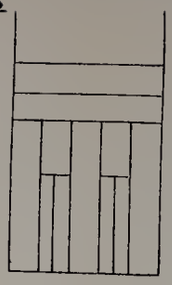
Assuan, granite quarry 132

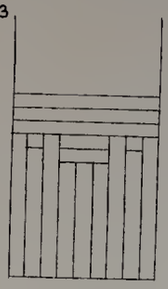
quarry marks all P.

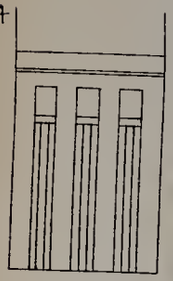
W. M. F. P.

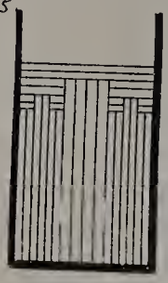
HORUS-NAMES OR KA-NAMES. BALANCES.

1

Snefru.

2

Snefru.
Maghara.

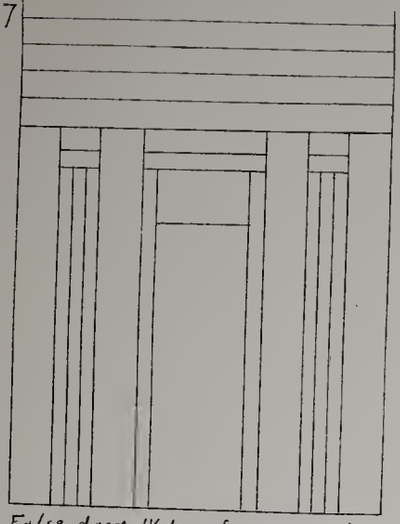
3

Khufu.

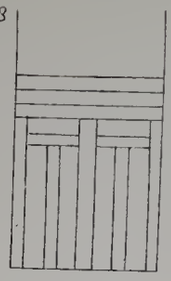
4

Raenuser.
Maghara.

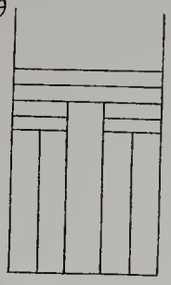
5

Hormenkau

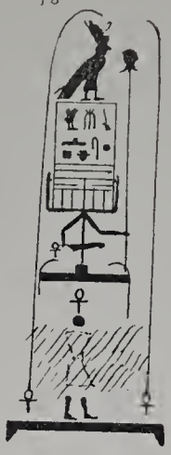
6

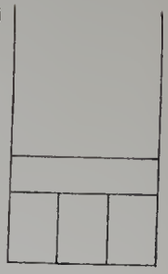
Pepi.
Maghara.

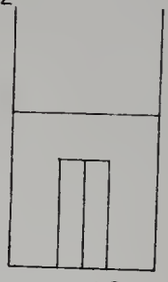
7

False door, IV dyn, for comparison.

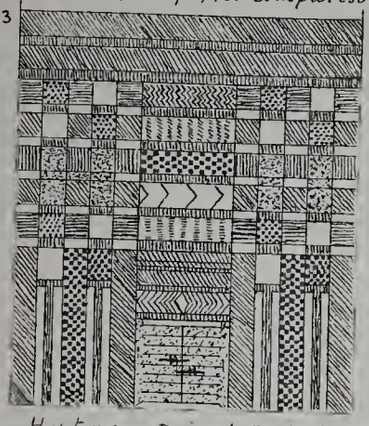
8

Rameren.
Hamamat.

9

Amenemhat I.
Krokodilopolis

10

Amenemhat I.
Tanis.

11

Seti I.
Abydos.

12

Seti I.
Abydos.

13

Hatasu Deir el Bahri.

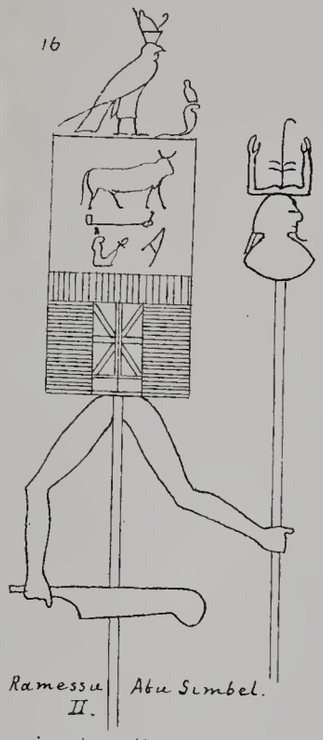
14

Ramessu II
and his Ka
(Bath)

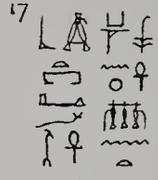
15

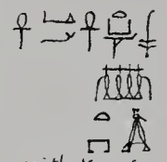
Ka of Hatasu. Deir el Bahri.

similar Ka figures,—
Tahutmes II, D. el Bahri,
Amenhotep III, tomb,
Ai, tomb,
Ramessu II. (Bath),
Vespasian, Esneh,
and as a child
Amenhotep III. Luxor.

16

Ramessu II. Abu Simbel.

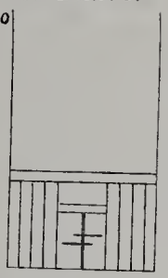
similar Ka groups,—
3 Seti I, Karnak, Redesieh,
2 Ramessu II, Karnak, Derr,
Ptolemy III, Karnak,
2 Ptolemy XIII. Edfu.
Tiberius. Philae.

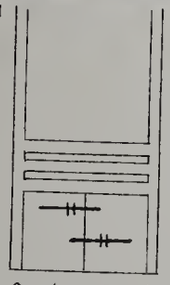
17

with Ka
of Ai, in
his tomb.

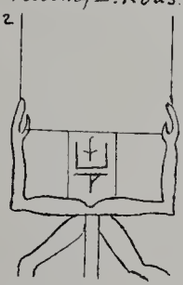
18

with Ka of
Tahutmes II
Deir el Bahri

19

Ramessu II. Tanis.

20

Ptolemy II. Kous.

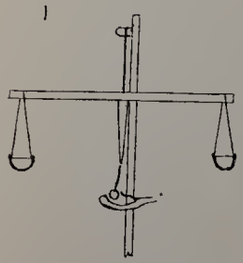
21

Ombos. Ptolemy XIII.

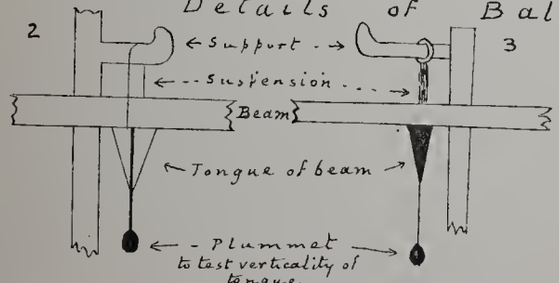
22

Edfu.

23

Tiberius.
Philae.

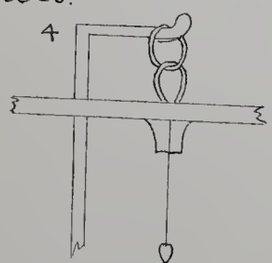
Details of Balances.

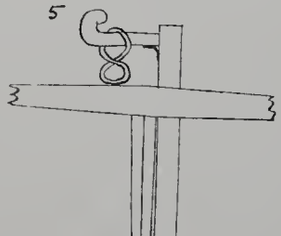
1

Beni-hasan. XII dyn

2


Thebes XVIII dyn.
Tomb 35.

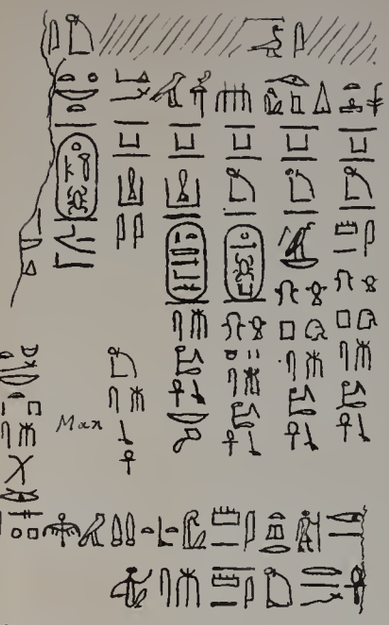
3
Thebes. XVIII dyn.
Tomb 34.

4

Thebes XVIII dyn.
(Denk V. 78)

5

Thebes. XVIII dyn
Tomb of Hui.

W.M.F.P

1.



Tablet of Mes, priest of Kames, Ta-aa-a, Tahutmes I, etc.

2.

Statuette of Setekemsaf.

3.

On statuette of Tahuti, priest of Hatasu.

4.

Stela of Mahu.

5

On statue of Hor-uta, quarry-master to Nekau.

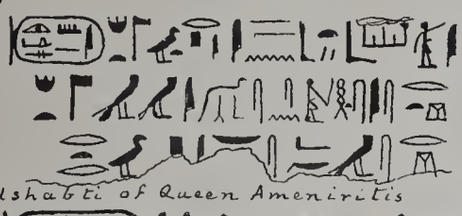
6

Canopic jar of Li.

7

Stamp of Khunaten.

8



Ushabti of Queen Amenirutis

9

Base of Amenhotep, son of servitor of Amenmert sister of Amenhotep I.

10

Stamp of Queen Thi, ux. Amenhotep III.

11

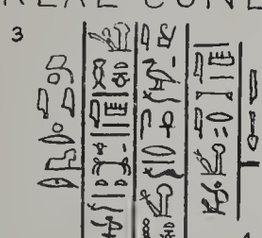
Back of statuette

FUNEREAL CONES.

1

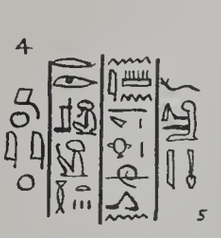
2

3



4 and Shrewsbury

4



5

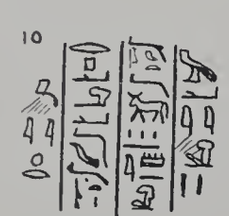
6

7

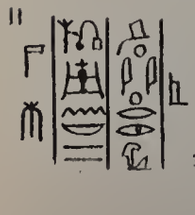
8

9

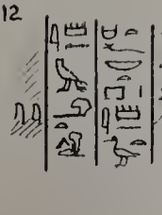
10



11

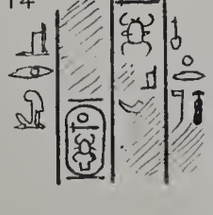


12



13

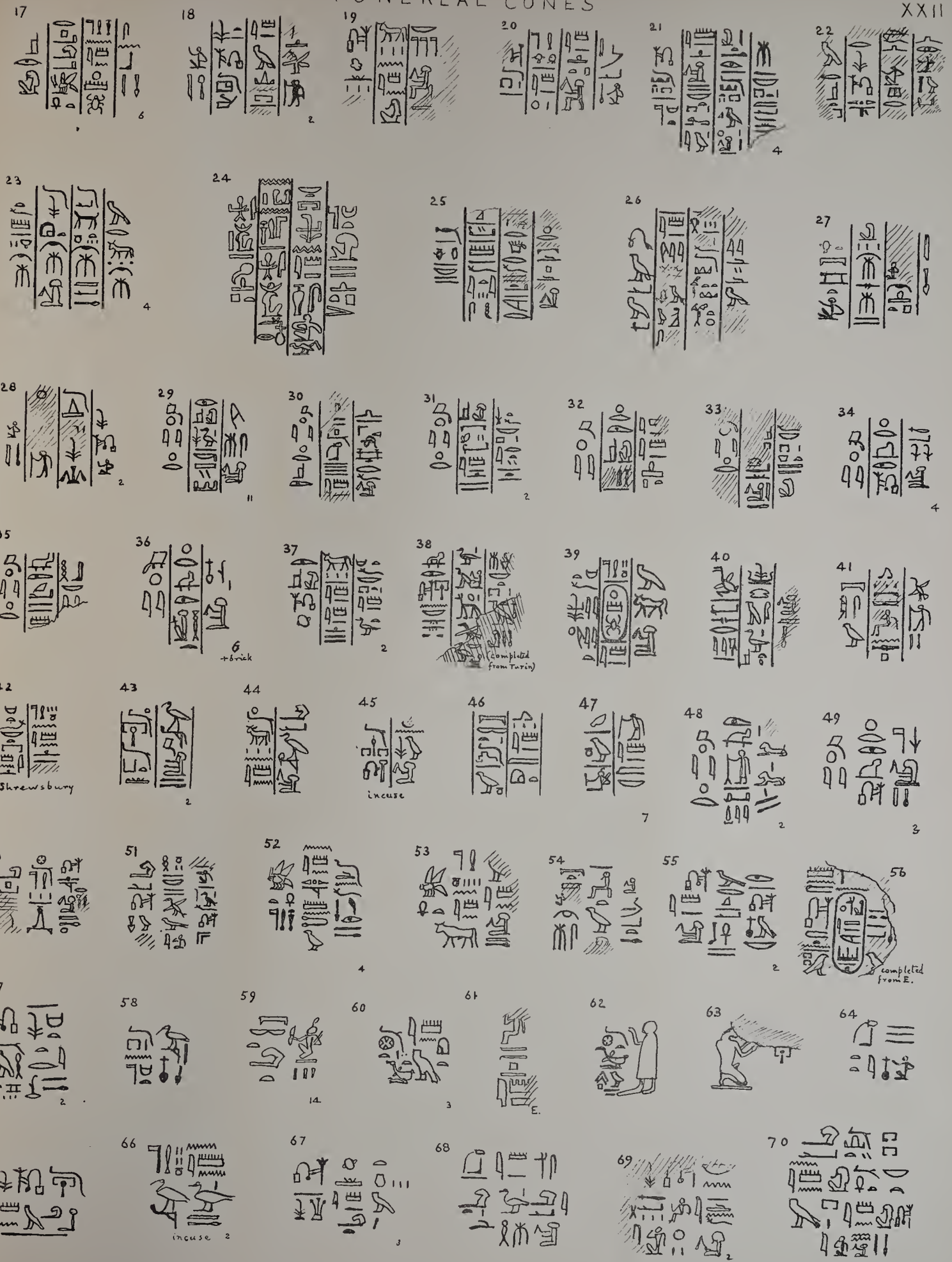
14



15

16

W M.F.P.


17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60
61
62
63
64
65
66
67
68
69
70
Shrewsbury
incuse
+brick
(completed from Turin)
completed from E.
E.
incuse
W. M. F. P.

71

72

73

74

75

76

77

78

79

80

81

82

83

84

85

86

87

88

89

90

91

92

93

94

95

96

97

98

99

100

101

102

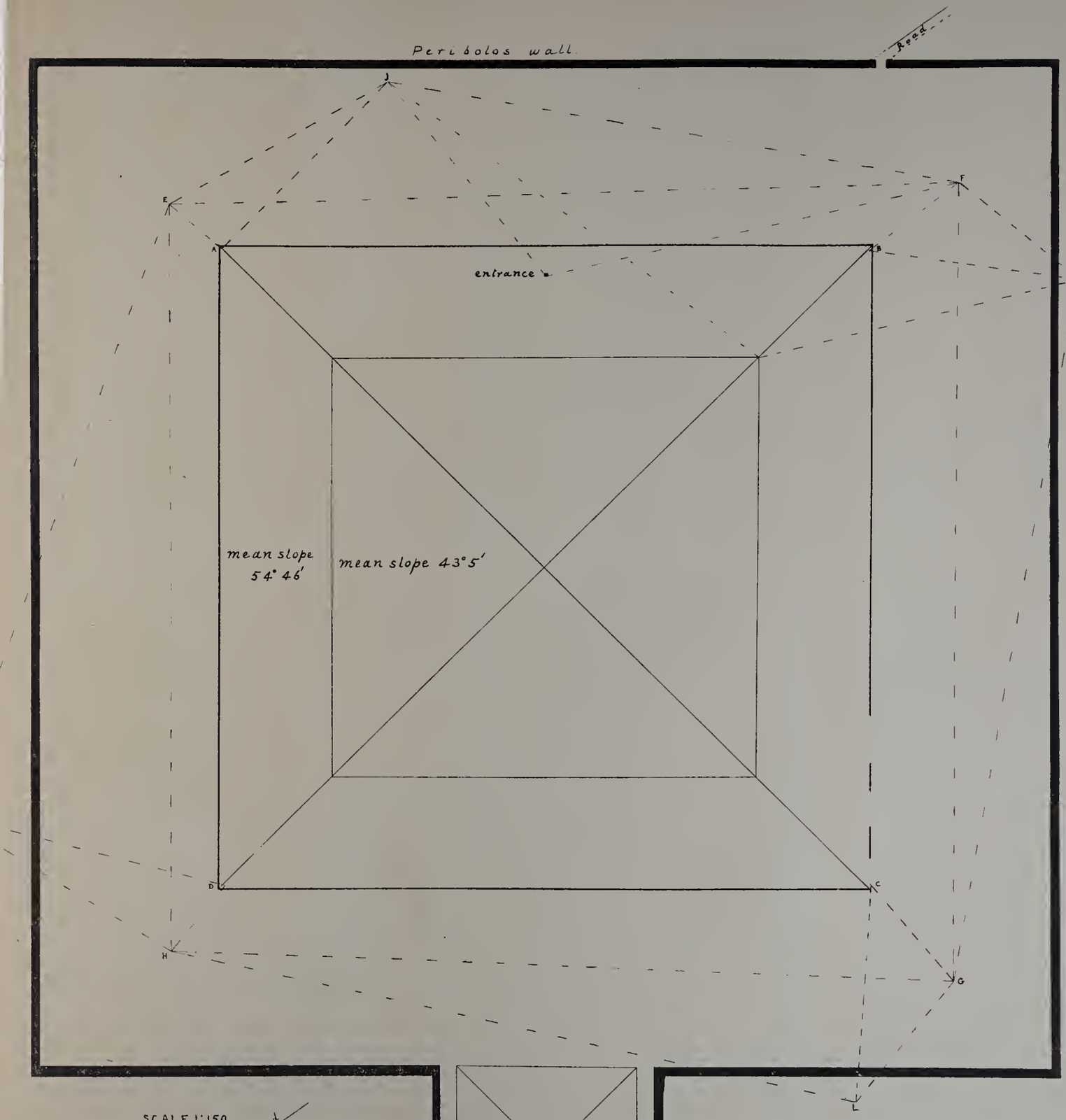
103

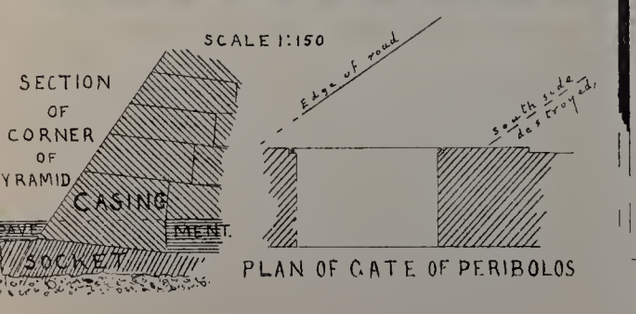
104

105

106

107





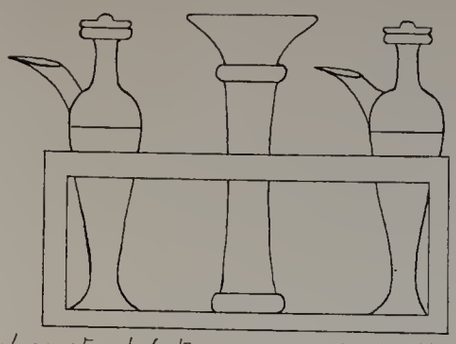
SOUTHERN PYRAMIDS AND PERIBOLOS.

DAHSHUR.

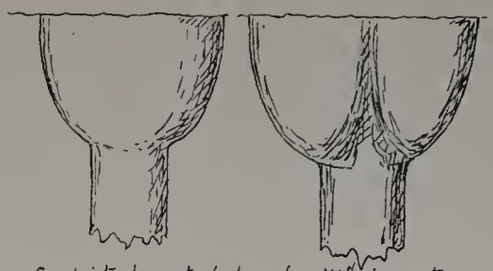
SCALE 1:1500

0 1000 2000 3000 4000 INCHES

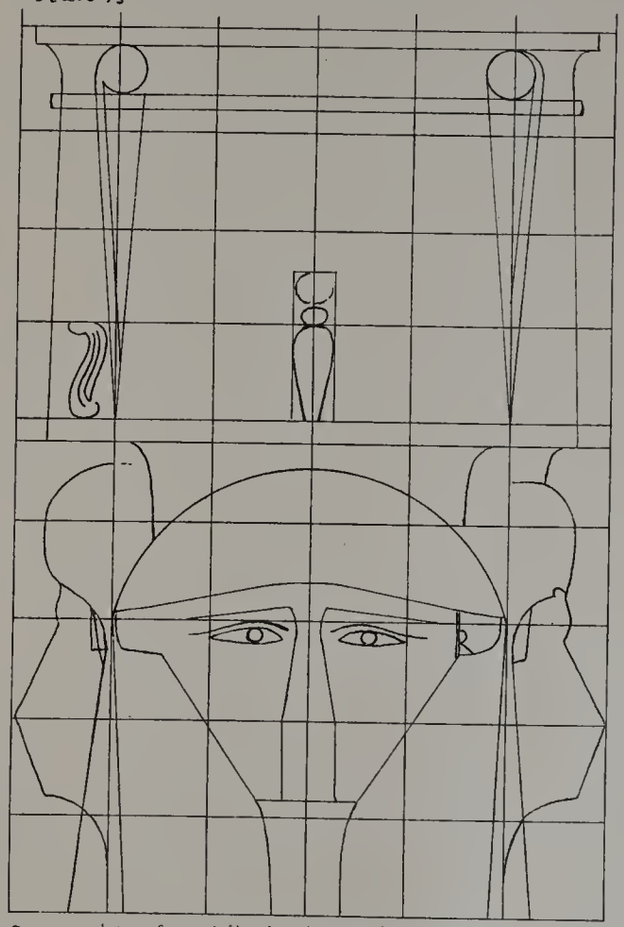
W.M.F.P.



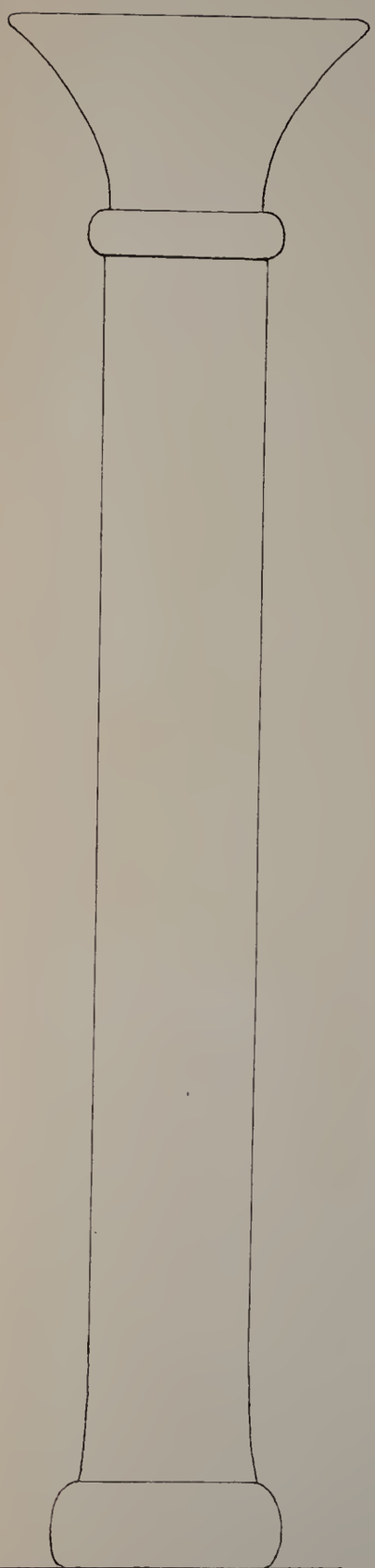
Bowl on stand, between vases. Khufu-khaf. IV^th dyn.
Scale 1/3



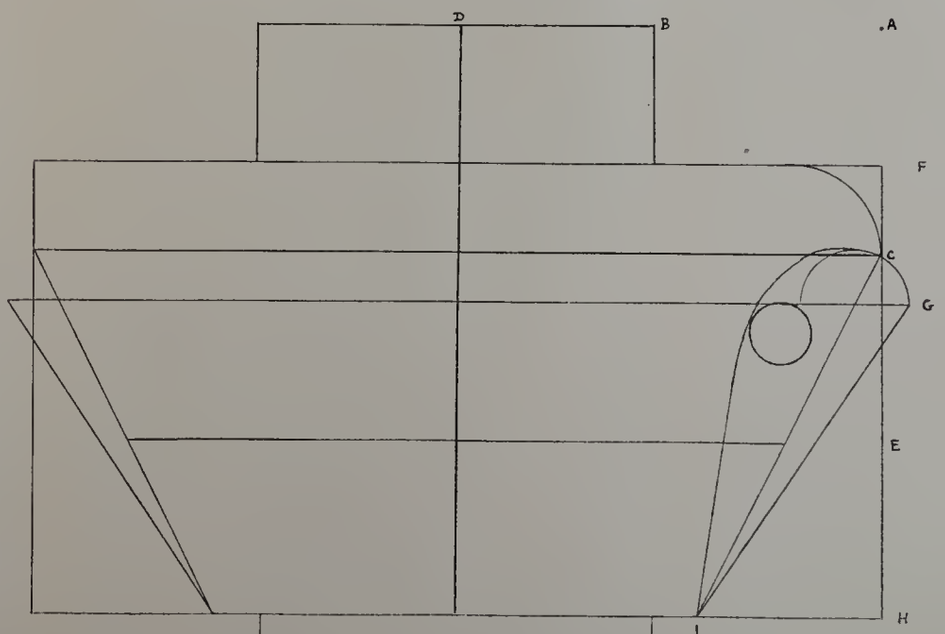
Capitals at Isbayda. VI^th dynasty.



Draught of capital at Gebel Abu Fodeh. Scale 1/20



Column, in low relief.
from doorway in tomb of
Khufu-khaf
at Gizeh. IV^th dynasty.
Scale 1/5



Draught of capital at Gebel Abu Fodeh Scale 1/20.

W.M.F.P.

Scale $\frac{1}{40}$

Way-marks on the Fayum Road

Sakkara

Mastaba Far'un

Plain of the Nile Valley 0-F

Limestone Blocks

Tomb?

Smith Chamber 211 F 212 F

Scattered Limestone 198 F

Station 192 F

Limestone Blocks

Limestone 208 F

Socket 206 F

Socket 213 F

Socket 213 F

Bit of Stela? Stela-base 204 F

Pillar

Socket and pillar

Socket

Bit of pillar

Lines of Gravel bordering road

236 F

256 F

To the Oasis of Ammon

Watershed

Top 456 F

North Pyramid Dahshur

Bit of pillar Scraps

Limestone and pottery

Sand

Two flat slabs

Socket and bit of pillar

Bit of Socket 260 F

P. Socket 273 F

Watershed

Top 450 F

South Pyramid Dahshur

South Brick Pyramid Top 198 F

Q. Socket 288 F

R. Socket 293 F

S. Stela and base 300 F

T. Socket 310 F

U. Socket 296 F

To the Fayum

V. Pillar 308 F

ANCIENT ROADS FROM MEMPHIS
TOWARD THE
OASIS OF AMMON AND THE FAYUM

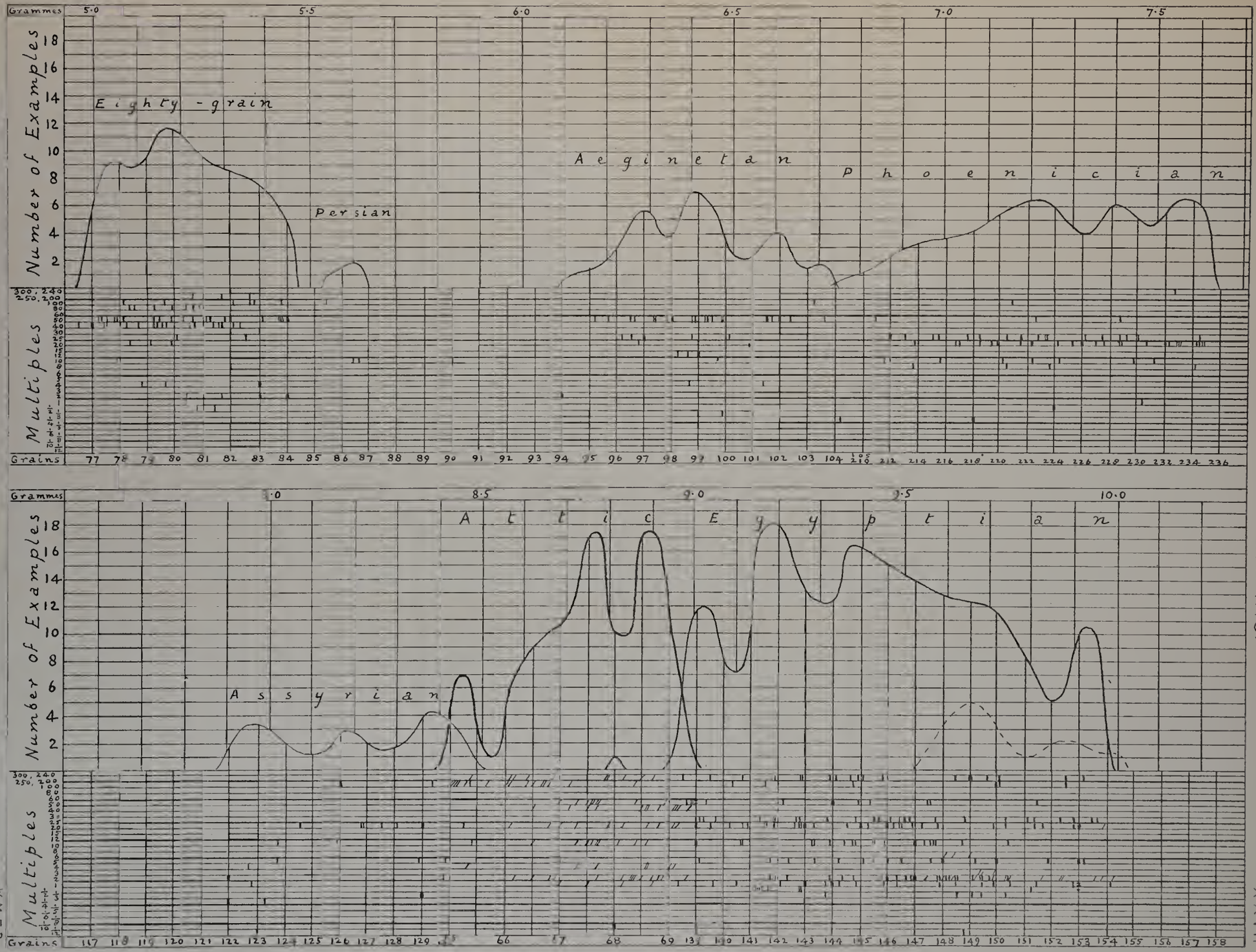
Scale 1:50 000

1000 5000 10,000 2 3 4 MILES 20,000 FEET

Levels in Feet above highest Nile deposit

W.M.F.P.

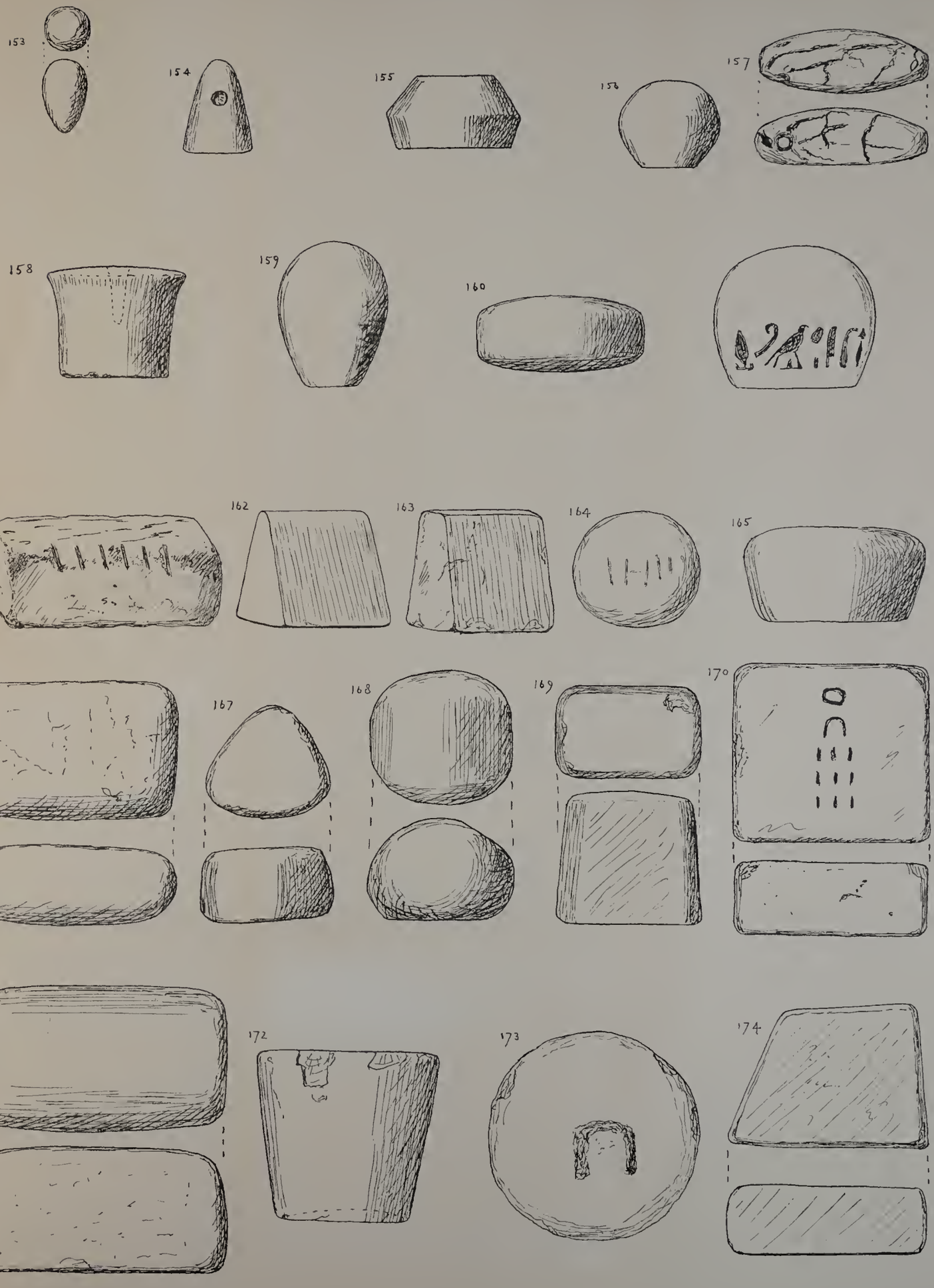
XXVII



WEIGHTS OF MEMPHIS.

XXVII

W.M.F.P.

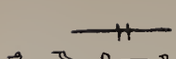

153
154
155
156
157
158
159
160
161
162
163
164
165
166
167
168
169
170
171
172
173
174

For kings' names see section 9.

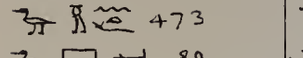
W.M.F.P.

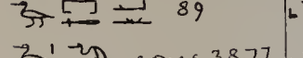
W.M.F.P.

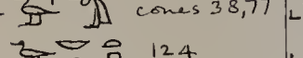
W.M.F.P.

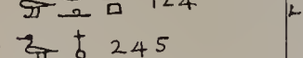



141

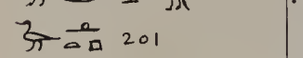

473

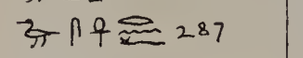

89

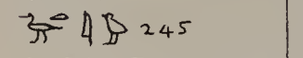

cones 38,77

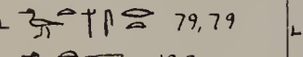

124

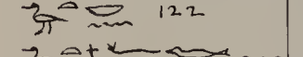

245

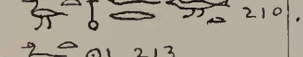

286

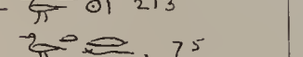

201

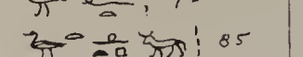

287

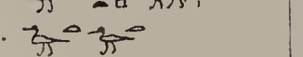

245

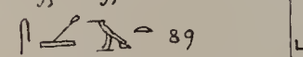

79,79

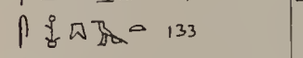

122

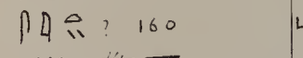

210

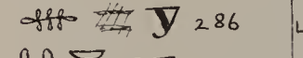

213

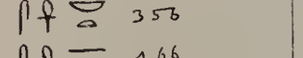

75

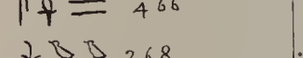

85

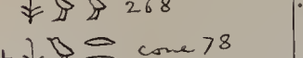


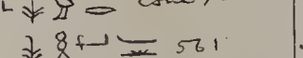

89

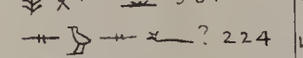

133

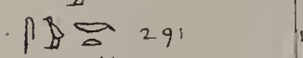

160

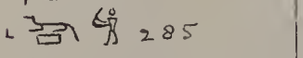

286

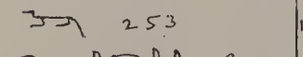

356

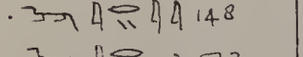

466

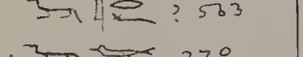

268


cone 78

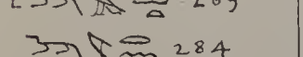

561

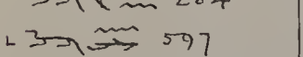

224

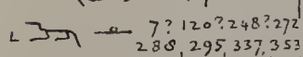

291

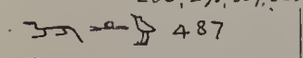

285

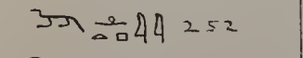

253

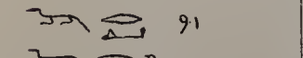

148

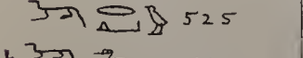

583


270

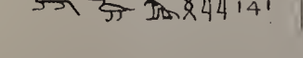

269


284


597


7? 120? 248? 272 280, 295, 337, 353


487


252

91

525

269

141

149

78

160

120, 273

258, 493

141

396

589

74, 106

24

97

160

292

160

74, 106

115

528

203

53, 54, 54, 82 90, 99, 120, 123 123, 149, 268, 581

80

97, 211, 267, 268

52

74, 106

88

388

31, 82, 141, 170, 286, 286

269

86, 89, 114, 299, 484, 538

152

287

538

82, 267

119

152, 268, 282

152

24, 24, 51, 74 106, 120, 137, 145 149, 152, 159, 173

111

292

88

87, 114, 114, 182

183

135

91, 355

267

99

108

97, 97

110

267

165, 168

cone 104

144

89

122

19

75

268

123

cone 95

647

89

456

133

22

270

557

cone 99

cone 54

24

23

28

354

98

296

cone 63

01 cone 21

122

290

270, 270

291

583

286

374

cone 102

24

89, 132

152

152

286

41

332

71

286, 337

24, 24

198

319

160

270, 270, 358

20, 29, 46, 94, 112, 127, 140

281

286

92

63, 96

48

111

cone 89

cone 38

cone 3

cone 4

19, 19

c. 6

636

292

90

cone 57

29, 42, 55, 94; 95, 112? 116, 127, 140, 147, 197

87 (= 114)

86, 87, 87, 114, 114

115

617

cone 105

cone 64

245

87, 114

245

76

87, 114

292

124, 333

245

74, 106

59

16

159

141

88

63

358

146

81

122

456

77

651

cone 26

527

285

355, 355

199

xx1·3

cone 43

cone 7

628

57

cones 58, 95

204, 222

cone 66

111

359

290

290

For Kings see S. 9.

W. M. F. P